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Vista Users To Face New Piracy Tests

Microsoft seeks to tighten controls on license keys; IT execs see added work

BY ERIC LAI

Microsoft Corp. last week confirmed that it is overhauling its antipiracy technology for Windows Vista in an effort to plug a potential software license security hole among corporate users and avoid the problems associated with Windows XP's antipiracy tools.

But the new technology will impose more stringent penalties on users who fail to validate their copies of Vista. And it likely will force many companies to tighten up the processes they have for installing Windows on PCs and tracking the use of their software license keys. That prospect, and the possibility that valid users could be deemed illegitimate, didn't sit well with some IT managers.

Frank Yawn, an IT manager at Time Warner Cable Inc.'s office in Greensboro, N.C., said he expects the new Software Protection Platform technology that Microsoft is building into Windows Vista to "add another layer of complexity" to his work.

"I personally feel the security of our [license] keys is pretty adequate," Yawn said. "If I can't trust my employees with the key and a Windows CD, then maybe I need to reevaluate my employees."

"While I fully understand the need for Microsoft to protect its licensing, I have concerns when more and more restrictions are placed on enterprise customers," said Steven Bastille, IT director for server

Piracy, page 16

INSIDE

Lack of access to the 64-bit Windows kernel miffs security vendor

OHS watchdog to toggle with at desktop secretary

Google Catches Flak for Its Hiring Procedures

Lengthy process turns off some IT pros, developers

BY ERIC LAI

Bolstered by the $4.2 billion it raised in a second stock offering in September 2005, Google Inc. has been on a hiring spree and is still looking to fill more than 1,000 positions.

But for some software developers and other IT workers, Google's arduous and secretive hiring process has started outweighing the glamour and perks it offers.

And now, the search engine vendor says that it is taking steps to simplify and shorten its hiring procedures.

The existing process didn't help to sell one systems administrator on the idea of working at Google. The systems administrator, who asked not to be identified, said he and a number of his co-workers at an e-commerce company in the San Francisco Bay area were called by Google recruiters on their home phones or personal cell phones during the summer. He

ONLINE

Google, page 61

Mass. CIO to Resign Over Impasse on Funding Bill

BY LINDA ROSENCRANCE AND CAROL SLIWA

Massachusetts CIO Louis Gutierrez last week submitted his resignation, saying a lack of legislative action on a bond bill needed to fund planned projects has left him to preside over "the dismantling" of the state's IT investment program.

Gutierrez, who became the state's CIO for the second time last February, was expected to leave early next year after a new administration takes office. But he now plans to

Mass. CIO, page 61

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Piracy, page 10

INSIDE

Lack of access to the 64-bit Windows kernel miffs security vendors. PAGE 16

DHS watchdog struggles with its own laptop security. PAGE 12

Cobol:
Yet
Cobol remains the workhorse of the world's largest data centers, but many IT shops view it as an outdated language that needs to be phased out. Meanwhile, managers worry about whether they'll run out of Cobol programmers before they run out of Cobol code.
Special report by Robert L. Mitchell and Gary Anthes

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Google, page 6

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Mass. CIO, page 6

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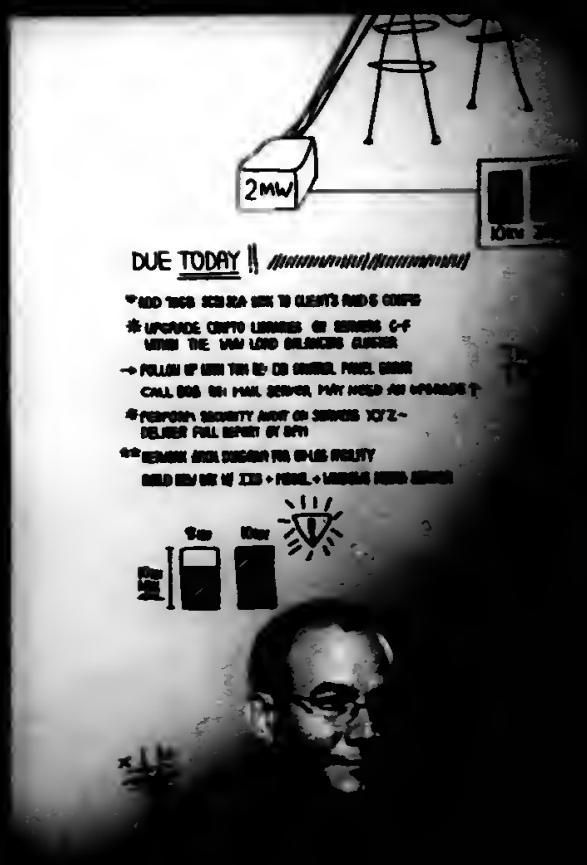

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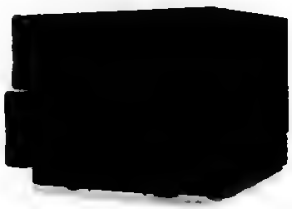

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CONTENTS 10.09.06

Buzzwords

In the Management section: In the world of IT, words often don't mean what you think they mean. Here are some leveraged phraseology solutions guaranteed to outperform your partner's verbal capabilities. **Page 48**

NEWS

6 **Small SOA projects** deliver ROI much faster than larger initiatives do, IT executives say.

8 **HP's boardroom scandal** moves into criminal court as California's attorney general files felony charges against former HP Chairman Patricia Dunn and four others for alleged privacy violations.

8 **Supercomputer users** plan to start using quad-core processors from Intel and AMD as soon as the chips become available.

12 **The inspector general's office** at the DHS audits itself and finds it is doing a poor job of protecting sensitive data on its laptops.

14 **Global Dispatches:** Microsoft appeals a European Commission fine for failure to comply with a 2004 antitrust ruling.

16 **A dispute** between Microsoft and two security vendors over blocked access to the 64-bit Windows kernel draws mixed reactions from IT managers.

18 **Former Philadelphia CIO** Dianah Neff didn't violate any rules when she took a job with a consulting firm that had done work for the city, its ethics board rules.

20 **Q&A: MySQL CEO** Marten Mickos sees a positive side to the debate over the Free Software Foundation's effort to change the GNU general public license.

21 **Fujitsu unveils** two disk arrays, including a model that can store more than a petabyte of data.

TECHNOLOGY

SPECIAL REPORT

It's Not Dead Yet

Cobol is rock-solid and still has some life left in it, but many users are migrating away from the big-iron programming language. They say Cobol isn't a good fit for modern applications. PAGE 25

Cobol Coders:

Going, Going, Gone?

As the number of Cobol programmers declines, IT managers must figure out how to retain current staffers and even attract new coders. PAGE 40

42 **QuickStudy: Predictive Analytics.** Get up to speed on this branch of data mining, which is concerned with forecasting probabilities.

44 **Security Manager's Journal: Awareness Trumps New Security Toys.** C.J. Kelly resists the urge to buy more technology and instead turns her attention to raising users' security awareness.

MANAGEMENT

52 **IT Mentor: Leading From Day One.** Leadership isn't just for your boss, says IT Mentor John West. Learn how to develop crucial skills to enhance your own career and your team's success.

54 **Career Watch.** Hiring trends in the IT industry; self-awareness from Monster.com; and the goddesses of IT.

OPINIONS

10 **On the Mark: Mark Hall** finds a tool that goes beyond project portfolio management to keep tabs on all ongoing IT operations.

22 **Don Tennant** says finding plagiarized material in our content was one of the most difficult moments of his career. But *Computerworld*'s editorial integrity and culture make him prouder than ever.

22 **Bruce A. Stewart** views the IT landscape four years after Nicholas Carr's infamous *Harvard Business Review* article, "Does IT Matter?"

23 **Michael Gartenberg** takes a look at the latest alternatives to laptops for road warriors.

46 **Mark Willoughby** carries on the battle against hackers with risk management lessons from Sun Tzu and ancient Rome.

56 **Barbara Gomolski** considers some factors that can influence decisions on moving core applications off the mainframe.

62 **Frank Hayes** comes back from DemoFall worried about another crop of technologies that can undermine IT security and your company's regulatory compliance efforts.

DEPARTMENTS/RESOURCES

At Deadline Briefs	6
News Briefs	10, 12
Letters	22
IT Careers	58
Company Index	60
How to Contact CW	60
Shark Tank	62

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How to Defeat Cross-site Scripting

SECURITY: Known as XSS, this Web site vulnerability is emerging as a top Internet threat. Martin Heller explains what it is and tells you how to defend against it.
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Use Network Dashboards Effectively

NETWORKING: They're everywhere, but do you really need them? And if you do, what's the best way to use them?
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Why Microsoft's Zune Scares Apple to the Core

MOBILE/WIRELESS: The full power of the Microsoft brand will be behind the launch of the Zune media player Nov. 14, and Apple has reason to be afraid, writes columnist Mike Elgan.
www.computerworld.com/mobilewireless

Juggling Job Options

CAREERS: *CareerJournal.com*'s Perri Capell offers advice on winning the offer you want when you're being considered for more than one job opening at a single company.
www.computerworld.com/careers

Opinion: A Scarcity of IT Talent Will Force Piracy

STORAGE: IT was the career choice 10 years ago. But for today's generation, it looks about as interesting as selling shoes, writes columnist Steve Duplessie, founder of Enterprise Strategy Group.
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AT DEADLINE

Windows XP SP1 Support to End

Microsoft Corp. recommends that customers still running Windows XP SP1 immediately upgrade to SP2 because the company's support for the older service pack ends this week. Microsoft had extended the support deadline from Sept. 17 until tomorrow. Microsoft typically supports service packs for 12 months but will extend that period for products it thinks customers need extra help with.

Schwarzenegger Vetoes RFID Proposal

California Gov. Arnold Schwarzenegger has vetoed legislation that would have created a security framework for radio frequency identification technology used in state documents and identification cards. The Identity Information Protection Act would have mandated protections against the abuse of RFID data by requiring the use of technologies such as encryption. The state legislature approved the bill in August.

AMD Offers $1.7M Package to ATI Chief

Advanced Micro Devices Inc. has made a job offer that includes $1.7 million to salary and bonuses to David Orton, CEO of ATI Technologies Inc., a maker of graphic cards that AMD has agreed to buy for $5.4 billion. It expects to close the deal by the end of this month. AMD last week said that Taiwan's Fair Trade Commission had approved the acquisition.

Microsoft to Issue 11 Patches This Week

Microsoft Corp. this week plans to issue 11 security updates for its Windows and Office software and the .Net Framework. Some of the updates will be for critical flaws that could be exploited by attackers with no action on the part of users. The regular monthly release of patches comes two weeks after the company was forced to issue a rare out-of-cycle patch for a flaw in Internet Explorer's Vector Markup Language rendering engine.

Small SOA Projects Can Show Immediate ROI

BY HEATHER HAVENSTEIN

MANY COMPANIES that have achieved early success with service-oriented architectures (SOA) focused first on small, incremental projects that show immediate returns to the business.

At the same time, some companies are struggling to gain a return on investment from large SOA projects. That has prompted several vendors, including Microsoft Corp., IBM and Mercury Interactive Corp., to step up efforts to add tools and services that can mitigate the risk of SOA development.

The IT operations group at Munich-based Siemens AG focused its initial SOA project first on automating and streamlining the processes for fulfilling internal requests to IT for new equipment, passwords and the like, said Thomas Buse, section manager of concepts and processes.

Once users from various departments started using that system for new workers, they asked IT to similarly automate and improve the processes in their departments, he said.

"[We] focused [from the start] on those processes and activities, which appear hundreds and thousands of times per day," Buse said. By reusing existing services to create new ones, he said, "we can really save money."

By taking advantage of the SOA to reuse common corporate services, Siemens has cut the time required to implement new processes by 83%, said Buse. Now the company releases four to eight new business processes to run on its SOA every six to 12 weeks.

He explained the project and its benefits last week to attendees at the Microsoft SOA and Business Process Conference in Redmond, Wash.

John deVadoss, Microsoft's director of architecture strategy, said an incremental approach can help alleviate some of the SOA ROI backlash he's hearing from some Microsoft customers working on very large projects.

Noting that an SOA is "fundamentally about aligning with the business," deVadoss said that "the challenge with the big-bang approach is [that it] tends to diverge from the business very rapidly. There is a lot of risk that gets built up."

Tracy LeGrand, chief architect and vice president of technology, strategy and architecture at Ameriprise Financial Inc. in Minneapolis, last week described SOA as a "journey that has incremental benefits."

LeGrand outlined his firm's SOA efforts during an IBM press briefing in which the vendor announced four new products, 23 product enhancements and 11 new services, all SOA-related.

Ameriprise began building a limited-focus SOA in 2000, long before the company was spun off from American Express Co. in September 2005.

The initial project, using IBM middleware and messaging tools, created services in three areas — customer management, asset management and money movement.

"We chose to implement SOA as a course of doing business," LeGrand said. "We focused on the key services we needed to support the business strategy of being more nimble and reliable, and [having] a quicker time to market."

The $5 million investment in IBM SOA tools has saved Ameriprise $25 million in customer management costs, LeGrand said.

Jason Bloomberg, an analyst at ZapThink LLC, said a backlash from some users undertaking large SOA efforts is fueled by "people realizing there are real pitfalls." He also said the efforts in such cases aren't showing the expected ROI.

Bloomberg suggested that companies first look to undertake SOA pilot projects that involve a few services and can quickly can show a strong ROI.

This week, Mercury Interactive is set to unveil new SOA governance, testing and management tools that are designed to help reduce business risk across the SOA life cycle, said Christopher Lochhead, the company's chief marketing officer. He added that the management tools can ease the implementation of both large and small SOA projects. ▸

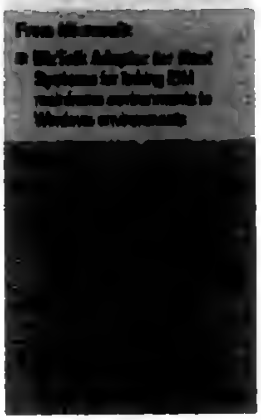
SOA Tools

From Mercury Interactive:

- Systinet 2 for SOA governance
- Mercury Service Test for functional and performance tests of services
- Mercury Service Test Management for managing service testing and service changes

From Microsoft:

- BizTalk Adapter for Host Systems for linking IBM mainframe environments to Windows environments



Incremental SOA Efforts Work for Clear Channel

CLEAR CHANNEL Communications Inc., which owns and operates radio and television stations nationwide, is about two and a half years into an incremental service-oriented architecture project. The company first created a portal with single sign-on access to its PeopleSoft applications and has undertaken several projects since, said Justin Myrick, solutions architect at the San Antonio-based company. In an interview with Computerworld, Myrick talked about the advantages of undertaking multiple smaller SOA projects rather than one huge one.

What is your experience with taking an incremental approach to building an SOA? We saw service orientation as a way to enable a business process view for our users and to hopefully transform our company into one with a heavier focus on process improvement. We picked a fairly small project to get going on, something we thought we could complete pretty quickly. We had great success in getting our environment set up. In three months, we got this project out live. Then we chose another project to get started and then had two in parallel after that.

How did you pick the first project for the SOA effort? We had a business need at the time in our accounting space. It turned out it was a high need from the corporate auditor and compliance perspective.

How are you measuring the return from your investments? We don't take the usual approach. Corporate IT is really tasked with creating or having on hand enabling technologies for the businesses. We needed to be out in front of the business and the need to keep itself agile and responsive to changes in the market. There is a little bit of an R&D aspect to that. By taking a rather incremental approach to trying out the different pieces in our SOA infrastructure . . . we're consuming and building as we go.

– HEATHER HAVENSTEIN

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HP Scandal Moves To Criminal Court

Former HP Chairwoman Patricia Dunn, four others face charges over pretexting

BY PATRICK THIBODEAU

CALIFORNIA Attorney General Bill Lockyer late last week filed felony charges against former Hewlett-Packard Co. Chairwoman Patricia Dunn, a former HP legal counsel and three private investigators for their alleged roles in the company's boardroom leak scandal.

Lockyer's complaint, filed in Santa Clara County Superior Court, ensures that headlines about HP's use of private telephone billing records to find a board member who leaked information to journalists will continue to dog the company.

Dunn's attorney, Jim Brosnahan of Morrison & Foerster LLP in San Francisco, is promising a fight to clear the former chairwoman. In a statement, Brosnahan called Dunn the victim "of a well-financed and highly orchestrated disinformation campaign."

AG Critical of Company

In addition to charging the group with violating privacy laws, Lockyer admonished the Silicon Valley corporate icon itself. In a thinly veiled reference to the so-called "HP Way" created by company founders Bill Hewlett and David Packard, Lockyer said that the company had "lost its way."

In addition to Dunn, the state filed charges against Kevin Hunsaker, former senior counsel and ethics chief at HP; Ronald DeLia, managing director of Boston-based Security Outsourcing Solutions Inc., an HP security contractor; Matthew Depante, manager of Action Research Group, a Melbourne, Fla.-based company described by the state as an "information broker;" and Bryan C. Wagner, a Littleton, Colo.-based employee of the research group.

All five face charges related to the use of pretexting, or "false and fraudulent pretenses," to obtain telephone billing records of 12 people, including journalists, HP board members and HP employees, according to the complaint.

Dunn and Hunsaker each appeared briefly in court last week. Dunn is scheduled to be arraigned on Nov. 17 and Hunsaker on Dec. 6. The three private investigators will likely appear in court this week.

While some HP users see CEO Mark Hurd's handling of the scandal as a test of his management skills, many have said over the past several weeks that the episode will likely not affect their relationships with the company.

For example, Rajesh Narang, chief system manager at the Centre for Railway Information System, Chanakya Puri, New Delhi, said late last month that the scandal "in no way" will affect his decisions to purchase products from HP.

"It is in our interest to keep our relationships with HP alive," Narang said. "Otherwise, there are only two more players in [the] enterprise class of servers — IBM and Sun, who can take advantage to increase the prices."

It was only early last month that details about the boardroom leak investigation emerged publicly, when HP disclosed it in a filing with the U.S. Securities and Exchange Commission. Details of the company's efforts to plug the leak caused an uproar, which culminated less than two weeks ago with a daylong, packed hearing before a subcommittee of the U.S. House Committee on Energy and Commerce.

"There seems to be a fundamental disconnect between the severity of the charges for the people who have been indicted and what the [financial] market thinks about this," said Charles King, an industry analyst in Hayward, Calif. "The market seems to be shrugging off all this stuff."

However, King noted that maintaining that view is contingent on how Hurd's actions affect his reputation. Hurd was also named chairman of HP following Dunn's resignation from the post on Sept. 22. ▸

Supercomputer Users Plan Fast Quad Adoption

BY PATRICK THIBODEAU

Users of high-performance computers are already making plans for x86-based, quad-core processors due from Intel Corp. next month and from Advanced Micro Devices Inc. by mid-2007.

By year's end, the Louisiana Optical Network Initiative (LONI), a network of high-performance computers run by eight state research universities, expects to have 1,440 Intel quad processors, code-named Clovertown, running on Dell servers and delivering 50 trillion floating-point operations per second (TFLOPS) of power.

Officials declined to disclose the cost of the systems.

When combined with the installed IBM p5 servers running various Intel processors, the capacity of the LONI network is expected to reach 85 TFLOPS.

Meanwhile, the Texas Advanced Computing Center at the University of Texas in Austin intends to buy 13,000 quad-core processors from AMD to run on Sun Microsystems Inc. servers. The quad-core Opteron chips are due out by mid-2007, according to AMD.

The $59 million purchase

will be funded by the National Science Foundation as part of its project to build a 400-TFLOPS system.

Widespread use of the quad systems depends on the development of software that can take advantage of the technology, noted John Fruehe, worldwide business development manager for Opteron at AMD. Each core in a multicore processor runs at a lower clock speed than single-core chips, and performance gains depend on how well the software can run in parallel environments, he said. "So much more relies on the software than ever before," Fruehe said.

Boyd Davis, director of marketing for the server products division at Intel, noted that many server-based business applications have already been adapted for multicore environments. "In a server market, most of the applications that customers care about have already been built with multithreading in mind," he said.

Many high-performance applications, such as those the Texas Advanced Computing Center plans to run on its Opteron quad chips, use the Message Passing Interface (MPI) communication protocol to work in large parallel environments. Tommy Minyard, assistant director at the center, said researchers there plan to find ways to improve the protocol's ability to increase the performance of applications running on quad chips.

One problem with the protocol, Minyard said, is that it causes network communications to use significant processor overhead. "If processors are trying to communicate with one another, they are not doing floating-point operations per se," said Minyard, who plans to work on developing hybrid techniques that would limit or move MPI's communications work off the processor. "We want to maximize the amount of floating-point operations that can be done with these systems at large scale."

In an effort to encourage businesses to utilize high-performance computing systems, 10% of the computing capacity in the LONI project will be reserved for businesses whose use of the system will create jobs in the state, said Charles McMahon, executive director. He said the group expects that companies willing to come to Louisiana and create jobs can benefit by using some of its compute cycles.

McMahon said LONI members hope to have their quad system in production as early as January. ▸

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This is my world.

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BRIEFS

Microsoft Buys Desktop Tools

Microsoft Corp. has acquired DesktopStandard Corp. in an effort to bolster its desktop management software. Terms of the deal weren't disclosed. Microsoft said it plans to integrate DesktopStandard's GPOVault, PolicyMaker Standard Edition, Registry Extension, Software Update and Share Manager products into its Group Policy Management Console, which sets policies for desktop and laptop computers.

Oracle Unveils First App From Portal Buy

Oracle Corp. has shipped the first new version of the billing and revenue management software of the former Portal Software Inc., which it acquired last spring. The software is designed to let communications and media companies bill and manage a range of services including wireline and wireless phones, broadband, cable, voice over IP, IP television, music and video. The Oracle Communications Billing and Revenue Management application began shipping last week.

Report of Mozilla Flaw A Joke

One of two hackers who demonstrated at a conference in San Diego exploit code for a vulnerability in the way the Firefox browser handles JavaScript has admitted to Mozilla Corp. that the presentation was meant to be a joke. Hacker Mischa Spiegelmock confirmed the prank in a LiveJournal blog.

Firm Settles FTC Pretexting Charges

An Internet business that sold people's telephone and credit-card records has settled charges that it violated federal laws, the Federal Trade Commission said. Integrity Security & Investigation Services and its owner, Edmund Edmister, were fined $2,700, the amount it earned from selling the records. The FTC filed complaints against the firm in May for alleged pretexting.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

Managing a Project Portfolio Only . . .

. . . covers a small part of your overall budget for the internal IT services you provide to end users. You know that. Vendors do, too, but most ignore completed IT projects in their project portfolio management (PPM) tools, claims David Hurwitz, vice president of marketing at CA Inc.'s business service optimization unit.

Hurwitz says that CA's Clarity Software, which will be upgraded at the end of the month, goes "beyond PPM" by showing CIOs and other users information about their ongoing IT operations. "Business leaders do not think about IT projects, but all of the services they get from IT," Hurwitz argues, saying that Clarity lets you share data with stakeholders so they can "make hard decisions to consolidate or sunset existing systems." Clarity offers four modules — portfolio, financials, business relationship, and risk and control managers — that it says you can use to drill down into the details of everything from budgets to the skills needed to sustain an IT-supplied service or start a new project. The new Clarity 8 release provides more granular information on tracking internal resources and skills, according to Hurwitz. Pricing for the software starts at $100,000.

Analyze your internal IT services . . .

. . . in real time, as conditions are changing. One reason business execs might be willing to chuck some of the services you provide is poor performance. One way to get ahead of their complaints might be to use the new Enterprise Edition of Netuitive Inc.'s Service Analyzer software. According to Daniel Heimlich, a vice president at Reston, Va.-based Netuitive, no mere mortal can devise monitoring and alerting policies for IT operations that are always changing. You need software that constantly identifies changes in your systems environment and automatically calculates their performance implications. Heimlich says Netuitive's software understands how applications run differently depending on the time of day, the day of the week, the month or even the season. The result, he claims, is that only "trusted alerts" of problems are brought to IT's attention. The Enterprise Edition upgrade boosts the capacity of the server-based software by up to 100 times, Heimlich says. Now, on a single server, it can simultaneously oversee more than 10,000 elements and 30,000 related metrics. An average installation runs about $500,000.

Model apps so you can understand . . .

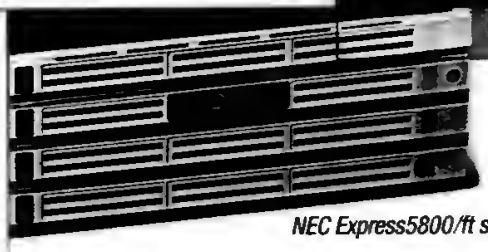
. . . their relationships to other IT assets. That sounds simple, but application architects don't always get the best tools to work with, says James Rogers, chief marketing officer at Troux Technologies Inc. in Austin. He believes that will change with the release of his company's Metis 6 software this week. The upgraded software's repository of IT assets shows all of their relationships, Rogers says. And now you can run what-if scenarios inside a data-mart generator using scenario-building tools from Troux or advanced analytics from Cognos Inc. that have been tightly integrated with Metis 6. For example, an application architect could submit a query on the feasibility of creating a new app using only software licenses already available in-house. The server-based Metis software typically costs $100,000 and up.

"People do not appreciate . . .

. . . monopolies. They want choice." No, Eran Heyman isn't talking about Microsoft Corp. Heyman, CEO of Ericom Software Inc. in Closter, N.J., is discussing Citrix Inc., his main competitor for terminal emulation software. He claims that Ericom's PowerTerm Web Connect tool, which supports 35 different terminal environments, has 1/200th the footprint of Citrix's software, making it faster and easier to manage. Pricing starts at $100 per concurrent user. In Q1 of next year, Ericom plans to ship a version of PowerTerm that will work with VMware Inc.'s server virtualization software.

"People want better support for . . .

. . . standards. Unfortunately, companies have deviated from them." Yes, Hakon Lie, chief technology officer at Opera Software ASA in Oslo, is indeed speaking of Microsoft and its Internet Explorer browser. Lie contends that the IE 7 beta "is doing terrible" at passing the Acid2 browser test, an online tool for determining whether a browser follows Web standards such as HTML and JavaScript. His company's Opera 9 browser passed the test last month, he says. IE's problem, Lie claims, is its dependence on "a 15-year-old code base" that ignored standards in the first place. For example, Lie says IE 7 doesn't support counters, a method of displaying text in an outlined, numbered format from an original document. That means your Web developers have to do extra work to support Microsoft's browser. Opera sees a new opportunity within IT shops whose Web apps are fully standards-based, Lie says. Expect to hear more from the vendor in 2007 than you have in the past, he adds. ▸



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BRIEFS

IBM to Invest $100M In Mainframes

IBM said it will invest $100 million in a five-year effort to promote mainframe computers. The plan calls for developing tools and processes that make mainframes easier to configure and operate, and to promote the systems as an alternative to server network computing. IBM said it will also build tools to help programmers automate the process of developing and deploying software on mainframes.

EMC, Microsoft Extend Agreement

EMC Corp. and Microsoft Corp. are expanding their existing relationship by more tightly integrating the EMC Documentum content management software and the Microsoft Office, Outlook and SharePoint products. As part of the arrangement, EMC will also add Documentum support for Microsoft's SQL Server 2005 database later this quarter.

Wyse Adds Wi-Fi to Thin-client Models

Wyse Technology Inc. has brought out a line of thin-client computers with built-in Wi-Fi capabilities, making them easier to deploy in public places. The new V-Class systems include embedded hardware and software for connecting to 802.11b and 802.11g wireless networks. Earlier thin-client models required plugging in a Wi-Fi PC Card or Universal Serial Bus adapter, according to the company.

Google Unveils Developer Engine

Google Inc. said it has created a specialized search engine for developers that's designed to find source code publicly available on the Web. The code search engine will debut this week and is aimed at helping professional and nonprofessional programmers find source code online. Google also plans to release an application programming interface to allow external developers to tap into the search engine.

DHS Watchdog Finds Gaps In Own IT Security

Homeland Security inspector general says some of office's laptops vulnerable

BY JAIKUMAR VIJAYAN

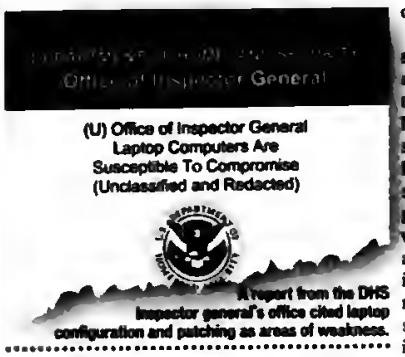
THE U.S. Department of Homeland Security's Office of the Inspector General, which is responsible for auditing the agency's IT security practices, took itself to task for doing a poor job of protecting sensitive data on laptop PCs in a report released last week.

Based on an audit of 94 "sensitive but unclassified" laptops, "significant work remains to be done" by the inspector general's office in the areas of configuration, patch and inventory management, the report said.

For instance, the inspector general's office has failed to implement a standard laptop configuration that meets federal security requirements, according to the report. Nearly 40% of the tested laptops were found to have vulnerabilities because they didn't meet the configuration requirements.

Similarly, procedures for patching laptops that are regularly connected to the inspector general's network were found to be lacking. The audit showed that the inspector general's office had procedures for ensuring that systems were fully patched prior to being put into use. But there were no processes for identifying important patches and updates on an ongoing basis, according to the report. It said that as a result, some patches for medium- and high-risk threats weren't applied to laptops.

About 20% of the laptops that were surveyed had three or more missing patches, while two loaner machines and two "secondary laptops" were missing a total of 160 patches for medium- and high-risk threats between them, the report said.


Office of Inspector General
(U) Office of Inspector General Laptop Computers Are Susceptible To Compromise (Unclassified and Redacted)

A report from the DHS inspector general's office cited laptop configuration and patching as areas of weakness.

The report, written by Frank Deffer, assistant inspector general for IT at the DHS, was released on a classified basis in August and kept secret until last Monday, when it was posted on the Inspector general's Web site. Substantial amounts of information were redacted from the unclassified version of the report.

Pete Lindstrom, an analyst at Burton Group in Midvale, Utah, said the report's findings aren't surprising given that such vulnerabilities are likely to exist in most organizations. The shortcomings identified in the internal audit are "key indicators of security [problems], but they don't necessarily indicate the level of risk" that the inspector general's office faces, he added. "For that, you have to also evaluate the sensitivity of the content on the laptops."

The inspector general's office shouldn't be expected to be any different from other government operations when it comes to security weaknesses, said Jonathan Penn, an analyst at Forrester Research Inc. "The problem isn't lack of awareness at an executive level," he said. The solution is funding for technology and more effective worker training, Penn added.

The report said the inspector general's office needs to fix the configuration vulnerabilities, and it recommended procedures for better configuration management and the deployment of an "enterprise property management system" for tracking inventories of IT equipment across the DHS.

In a written response dated June 14, a DHS official said the CIO in the inspector general's office concurs with the recommendations and has set a plan for addressing the various issues. Measures that had already been taken or were being implemented include the creation of a "master image" configuration for unclassified laptops and the adoption of new rules requiring the removal and sanitization of hard drives from systems slated for reuse, the official wrote. »

Report: FERC, Medicare Unit Have Security Weaknesses

THE FEDERAL Energy Regulatory Commission (FERC) and the U.S. Centers for Medicare & Medicaid Services (CMS) both face security vulnerabilities because of IT shortcomings, according to a pair of government reports.

In a report that was written in August and publicly released last week, the Government Accountability Office (GAO) identified 47 weaknesses in the way that the Medicare and Medicaid centers have been using a wide-area network operated by AT&T Inc. to transmit medical claims data. The weaknesses could expose the medical records and other personal information of patients to malicious hackers, the GAO warned.

The GAO said that the CMS and AT&T didn't use adequate identification and authentication controls for network access, restrict access to only the programs and files needed by individual users, close off all access from the private network to the Internet or consistently encrypt sensitive data.

The report didn't name AT&T, but the CMS confirmed that the company operates the WAN under a four-year, $76.6 million contract awarded in 2003. In a statement sent via e-mail, AT&T said it and the CMS "are confident that no proprietary data was ever exposed to unauthorized parties." More than half of the weaknesses identified by the GAO have been resolved, AT&T added.

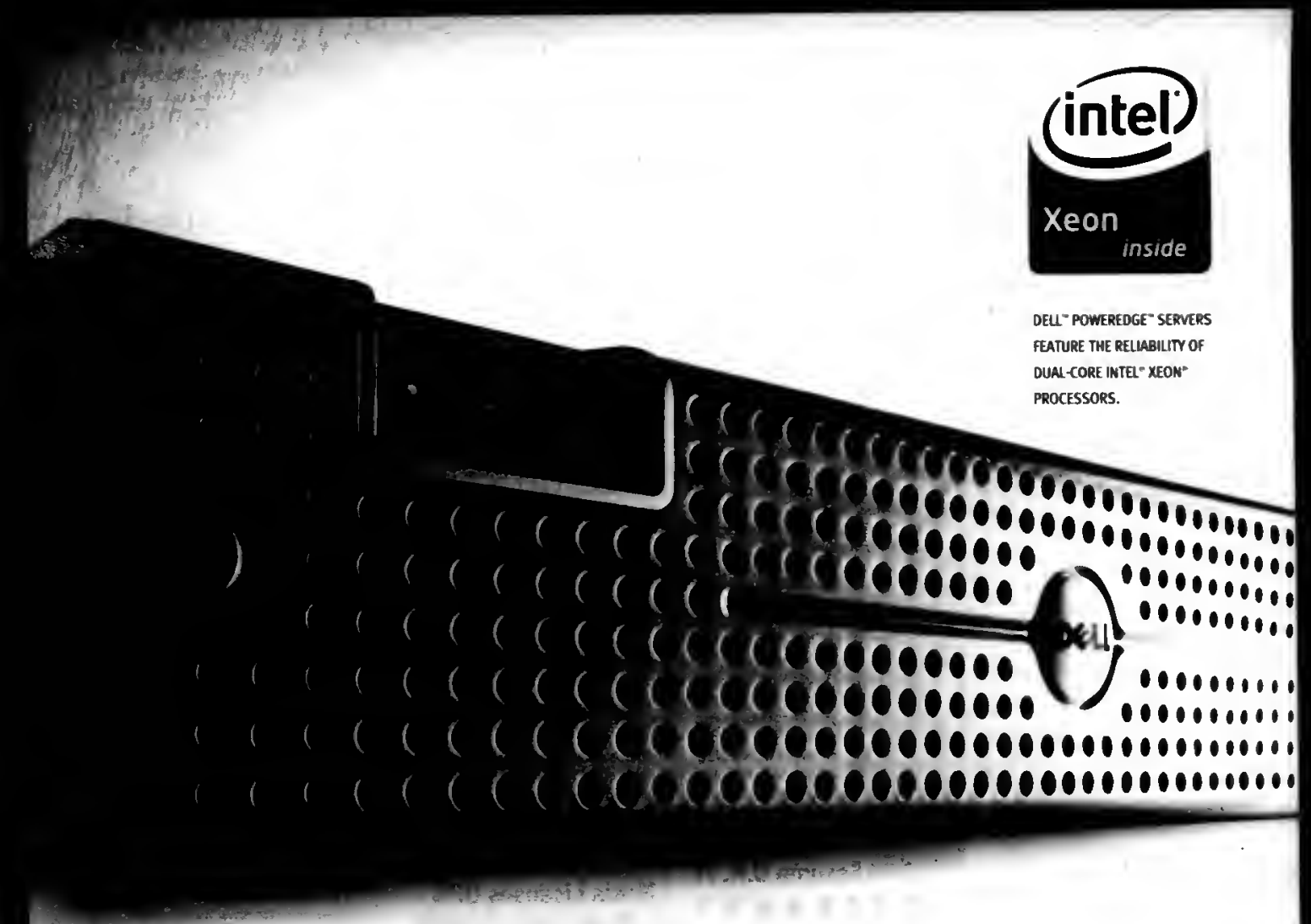
CMS Administrator Mark McClellan said in a July 10 letter in the GAO that corrective action or new controls had been completed on 22 of the 47 shortcomings at that point. Eight more were scheduled to be fixed by the end of September, according to McClellan. Another 11 weaknesses that "are somewhat more complex" should be addressed by Jan. 7, he wrote, adding that the CMS is still assessing the resource requirements and financial impact of fixing the final six flaws.

Meanwhile, the U.S. Department of Energy's inspector general said in a report issued Sept. 25 that the systems used by the FERC are vulnerable to cyberattacks because the commission's current IT security procedures don't meet federal guidelines.

Although the FERC has strengthened its cybersecurity program, testing by the inspector general's office revealed continued problems with default, blank or easily guessed passwords and user-account controls, according to the report. In addition, annual security reviews and security assessments done in connection with system certifications either weren't performed properly or weren't adequately documented, the report said.

In a written response that was included with the report, Thomas Herlihy, the FERC's executive director, concurred with the inspector general's recommendations but said the commission has "an effective security program" that meets the federal mandates.

– LINDA ROSENCRANCE, WITH GRANT GROSS OF THE IDG NEWS SERVICE



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GLOBALDISPATCHES An International IT News Digest

Microsoft Appeals Fine Over Antitrust Ruling

BRUSSELS

MICROSOFT CORP. last week filed an appeal of a fine that the European Commission imposed on the company in July for failing to comply with its 2004 antitrust ruling.

The EC fined Microsoft €280.5 million ($356 million U.S.), saying that the company had failed to submit adequate information about its operating system protocols for sharing with competitors.

Microsoft appealed the fine to the EC's Court of First Instance in Luxembourg. The court is already considering Microsoft's appeal of the 2004 ruling itself, which included a separate fine of almost €500 million ($634 million). A ruling on the first appeal is expected late this year or in the first half of 2007.

$236M
Size of the market for enterprise application software suites in Russia last year. The market is expected to grow by more than 28% this year.

Despite the earlier appeal, Microsoft has claimed from the beginning that it is committed to honoring the antitrust ruling. The company paid the initial fine promptly, and it has offered an alternate version of Windows XP without its media player software, as required by the ruling.

Microsoft submitted new information about its Windows protocols to the EC shortly after the noncompliance fine was imposed. The commission is still studying the new documentation, but Neelie Kroes, the European commissioner in charge of competition, has said she is confident that Microsoft's "foot-dragging" is over.

"They are making constructive efforts now," Kroes said. "It's a shame they didn't do so two years ago."

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Siemens Sets Up Fund For BenQ Mobile Staff

MUNICH

UNDER STRONG PRESSURE from German government officials, Siemens AG last week set up a fund to aid workers at BenQ Mobile GmbH who may lose their jobs as part of a possible shutdown of the mobile operation, which previously was owned by Siemens.

The €35 million ($44 million) fund was created after BenQ Corp. in Taipei said it would stop investing in BenQ Mobile, a decision that prompted the Munich-based maker of cell phones and other mobile devices to file for bankruptcy protection.

Siemens paid BenQ Corp. €250 million ($317 million) last year to take the mobile unit off its hands. Last week, Siemens CEO Klaus Kleinfeld said in a statement that he thought BenQ's actions were "reprehensible."

However, BenQ officials noted that even after investing €600 million ($762 million) in BenQ Mobile, they expected significant losses to continue at the mobile unit. BenQ Mobile has lost €840 million ($1.07 billion) since the ownership change, the parent company said.

BenQ said it plans to continue developing and manufacturing the BenQ-Siemens line of phones at its operations in Asia.

■ DAN NYSTEDT, IDG NEWS SERVICE

CSC to Assume U.K. IT Pacts From Accenture

LONDON

A NATIONAL FIRM led by Computer Sciences Corp. will take over two contracts originally awarded to Accenture Ltd. for delivering IT systems and services to the U.K.'s National Health Service (NHS).

The contracts, which are part of an IT modernization effort by the NHS, involve the deployment and ongoing management of systems in the east and northeast regions of England. El Segundo, Calif.-based CSC valued the deals at up to £1.97 billion ($3.7 billion) over the next nine years.

Accenture has said its project costs were expected to exceed the value of the contracts it signed with the NHS. In March, the company set aside a pretax provision of $450 million to cover its expected losses on the contracts.

As part of the NHS's Connecting for Health modernization program, CSC already holds a contract to deliver IT services to the agency in the northwest and West Midlands regions of England. CSC and iSoft Group PLC, a medical applications vendor in Manchester, England, that has been working with Accenture, will take over responsibility for the contracts now held by Accenture by Jan. 8.

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The three-year operating agreement provides Marina Del Rey, Calif.-based ICANN with more freedom from U.S. government involvement, but it stops short of full privatization for now.

However, EC spokesman Martin Selmayr said that the Commerce Department has given "clear indications that this agreement would be the last" between it and ICANN.

The pact is subject to a review in 18 months, the Commerce Department said. It added that if the review concludes that ICANN is stable, transparent and accountable, the U.S. could immediately decide to grant the nonprofit organization full autonomy.

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Nokia Licenses GPS Patents From Trimble

ESPOO, FINLAND

NOKIA CORP. has signed a licensing deal with Trimble Navigation Ltd. that gives the mobile phone maker access to hundreds of Trimble patents covering technologies for providing location-based services.

The agreement, which was announced last week, gives Nokia usage rights to almost 700 patents held by Sunnyvale, Calif.-based Trimble, said Waldemar Sakalus, director of business development at Nokia's mobile phone group. Espoo-based Nokia also gets exclusive rights to sublicense the patents to other companies, Sakalus said.

In return, Trimble gets a nonexclusive license to use location-based technology patents held by Nokia in its Global Positioning System products. Financial terms weren't disclosed, but both companies said the deal won't have a significant effect on their revenues or income.

■ JAMES NICCOLAI, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

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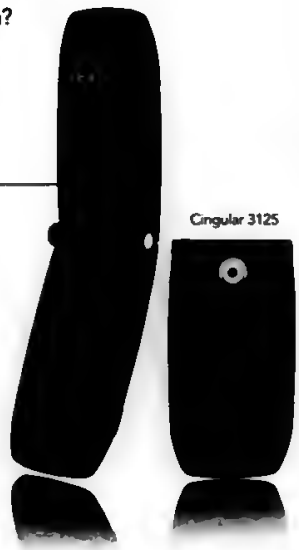

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Continued from page 1

Piracy

and desktop systems at Station Casinos Inc.

The Las Vegas-based casino chain runs more than 3,000 Windows PCs and servers, many in a high-availability environment. Bastille worries that increased oversight of software license keys by Microsoft through the SPP technology will increase the chances that legitimate users will be asked to revalidate their Windows installations — a scenario he said he could ill afford.

"If there's an error somewhere outside of my control, and all 3,000-plus machines are suddenly not working, I could end up looking for a new job," Bastille said.

Currently, companies that buy large amounts of software from Microsoft under volume licenses are issued a single key for each application or operating system, no matter how many machines the products will be installed on. Many store their license keys as unencrypted strings in plain-text files, making the keys vulnerable to theft.

Stolen keys often end up on the Internet, where they can be reused millions of times by software pirates and unwitting users. In July, Microsoft said that of the 300 million copies of Windows XP that had been scanned by its Windows Genuine Advantage (WGA) tool at that point, 48 million had failed the piracy test because they were installed with stolen volume-license keys.

Starting with Windows Vista and Windows Server Longhorn, which is expected to be released next year, companies will have to choose one of two options under the SPP program. The first, primarily for smaller customers, is to be validated via the Internet by receiving a Multiple Activation Key from a Microsoft server during installation.

The second option, geared toward larger companies, is to install a Microsoft-developed Key Management Service on an internal server to validate PCs during the installation process and every 180 days thereafter.

The KMS application will also encrypt the license keys and hide them on the server, according to Microsoft.

Roger Kay, an analyst at Endpoint Technologies Associates Inc. in Wayland, Mass., said the SPP technologies should "significantly tighten" the leakage of volume-license keys to software pirates. He added that doesn't think SPP will prove to be "that much of a hassle" for companies.

Cori Hartje, director of Microsoft's Genuine Software Initiative, said companies that lose their Windows Vista volume keys or have them stolen and used by pirates won't be penalized, although they may be required to reinstall and change their keys. That process will be simplified by the KMS offering, she said.

The potential consequences are more dire for Vista users who ignore SPP's validation requests or fail its test. And they go beyond those that are now faced by Windows XP users who run afoul of WGA's validation component.

XP users who don't pass the WGA test are blocked from downloading software add-ons such as the Windows Defender security tools. In contrast, users who decline or fail to validate their copies of Windows Vista via SPP will be blocked from using some of the operating system's features, Hartje said. That includes Aero, Vista's graphical user interface, and ReadyBoost, an application that uses flash memory to increase system performance.

After 30 days, the operating system will go into what Kay described as an "ugly mode" that provides reduced functionality, similar to Windows Safe Mode. Users then will be given one final hour of Web access as a last chance to validate the software or buy a legitimate license.

SPP will not be included in Office 2007, which is expected to ship by year's end. However, Microsoft said that the technology will eventually be built into more of its products. ▸

Piracy Check

Microsoft said users whose copies of Windows Vista don't pass the SPP validation test will:

- Have access to critical security updates but be barred from using Aero, ReadyBoost and other features
- See a persistent statement on their desktop screen that reads, "This copy of Windows is not genuine."
- Be downgraded to a reduced functionality mode if they don't successfully validate their systems within 30 days

IT Split on Patch Guard Row

BY JAIKUMAR VIJAYAN

IT managers have divided views of a simmering dispute between two major security vendors and Microsoft Corp. over the latter's Patch Guard technology, which prevents access to the 64-bit Windows kernel.

Security software vendors Symantec Corp. and McAfee Inc. say the Patch Guard technology prevents the use of certain features in third-party tools that would make Windows safer from hackers. McAfee last week took out a full-page advertisement in London's *Financial Times* newspaper and charged that Microsoft's use of Patch Guard is anticompetitive behavior.

Microsoft, meanwhile, contends that the technology itself closes the 64-bit Windows kernel to unauthorized access.

"This is a double-sided sword," said Andreas Wuchner, head of IT security architecture and strategy at Novartis Pharma AG in Basel, Switzerland. "Microsoft got blamed in the past for not being able to [better] protect their customers. Now that they are moving forward, everyone starts blaming them again for being a monopolist."

Robert Bagamery, a systems support specialist at a large Canadian utility that he asked not to be named, suggested that Microsoft's move to close access to the kernel has been poorly disguised as a security issue. "It is absurd that we should trust the company responsible for a raft of security snafus to protect our systems, too," Bagamery said.

The Patch Guard technology is already in 64-bit versions of Windows, and it will be included in the 64-bit version of the Windows Vista software due later this year.

"In the 32-bit version of [Windows], there has always been these undocumented and unsupported ways of modifying the kernel while it is running," said Stephen Toulouse, senior product manager in Microsoft's security technology unit. Such access "introduced stability problems, performance problems and security problems," he said.

Symantec and McAfee argue that restricting access to Vista's kernel hampers their ability to deliver functions such as behavior-based virus blocking and rootkit detection. They also maintain that hackers have already gained access to the kernel of 64-bit Windows systems.

A spokeswoman for Santa Clara, Calif.-based McAfee suggested that Microsoft at least allow security vendors to access the Vista kernel. Access to 32-bit versions of Windows has led to the development of "sophisticated security technology," she said.

Dave Jordan, the chief information security officer for Virginia's Arlington County, said that as the use of 64-bit Vista spreads, the Patch Guard feature could limit choices for users. "I don't believe for a moment that the genesis of current exploits comes from the kernel access," Jordan said. "I'm shocked that they don't want to share their information, especially with the top-name [security] vendors," he said.

The county government has a "fairly resilient network" because it uses diverse products from multiple vendors, Jordan said. "We want to be able to retain complete control of the tools that we use in our operation and don't want to be subject to any one vendor's arbitrary security scheme," he said. "This is antitrust behavior poorly disguised as a security and feature issue."

Conversely, Lloyd Hession, chief security officer at BT Radianz, a New York-based telecommunications provider, said that Patch Guard appears to be a response to critics calling for such features in Microsoft operating systems.

Hession predicted that as more security features are bundled into Vista, some standalone security products will become irrelevant. "It's a positive for users," he said, "but it sucks to be a Symantec." ▸

SYMANTEC AND McAFEE SAY:	MICROSOFT RESPONDS
■ Patch Guard will hamper their ability to deliver key product functions and do little to improve kernel-level security in Vista.	■ Patch Guard will restrict unsupported code from running at the Vista kernel level, thereby improving security.
■ Windows Security Center dashboard in Vista can't be automatically disabled even when third-party security software is installed, which could lead to user confusion.	■ Windows Security Center is similar to Windows Device Manager. Users will have a choice of easily disabling the notification service if they want to.

Continued from page 1

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SYMANTEC AND MCAFEE SAY	MICROSOFT RESPONDS

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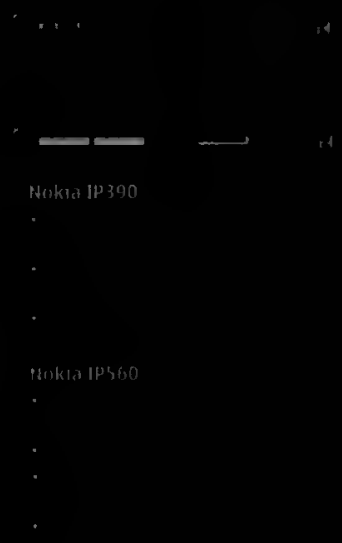

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Ethics Board Finds No Rules Violations by Ex-Philly CIO

But says Neff should have disclosed plan to take consulting job earlier

BY TODD R. WEISS

PHILADELPHIA'S ethics board has found that Dianah Neff, the city's former CIO, didn't violate any rules in taking a job at an IT consulting firm that had been awarded two contracts by her department. But the panel did scold Neff for not notifying local officials of her plans earlier than she did.

In a 15-page report issued Sept. 20, the three-member Philadelphia Board of Ethics said it has no evidence that there were any conflicts of interest on Neff's part before or after she accepted a job as a senior partner at Alpharetta, Ga.-based Civitium LLC, which she joined last month.

However, the ethics board added that Neff should have discussed the proposed job offer confidentially with the city's legal department or the ethics board itself as soon as she began negotiations with Civitium. Doing so could have helped avoid the appearance that she had exercised her authority "in a way that may have created or enhanced a personal financial opportunity," according to the board.

"The pursuit of an employment opportunity with a former city vendor by a city official who had very recent responsibility for awarding and monitoring multiple contracts with that vendor creates a situation of apparent impropriety," the ethics board wrote. It cautioned that conduct such as Neff's "tends to weaken public confidence in government," even if no ethics rules were actually violated.

In a written response that was incorporated into the report, Neff said that the ethics board's comments on the appearance of impropriety were unfair because there were no rules specifically requiring her to seek a review of a potential job opportunity such as the Civitium one.

Reached for further comment in South Africa, where she was traveling on business, Neff said that she had expected to be fully cleared.

"The thing of it is, they found no wrongdoing," she said. "So even if I had gone to them and asked them [about the job change], they would have said the same thing. I knew they weren't going to find anything wrong, and they didn't."

Neff announced in August that she would resign as CIO and go to work for Civitium, which does consulting work on deployments of municipal wireless networks.

The company helped create plans for a citywide wireless network in Philadelphia under the two contracts it was awarded by the IT department. Neff said previously that the combined value of the contracts was about $300,000 and that Civitium completed its work for the city in August 2005.

After Neff's plans to join Civitium became public, Philadelphia Mayor John Street asked the ethics board to review the job switch to make sure that her actions were appropriate. No wrongdoing was implied by the review, according to the mayor's office, and Neff said at the time that she was comfortable with the review process.

Civitium approached Neff about taking a job with the company last May and made her a formal offer in July, according to the ethics board's report. Her last day with the city was Sept. 8. ▶

$20M SAP System Remaking Belarus Bank's Operations

BY MARC L. SONOINI

Belarusbank JSSB is in the midst of a $20 million implementation of SAP AG business applications that it expects will modernize and improve its operations.

Uladzimir Novik, deputy chairman of the board at the bank, said the mainframe-based SAP software is replacing several systems that had been deployed separately over the years by different company units.

The Minsk, Belarus-based bank has six regional branches, 24,000 employees and approximately $4 billion in assets. It offers 100 services and products.

The bank began implementing the SAP for Banking package, which includes ERP and CRM applications, in July, Novik said. The project, which will centralize all bank operations for the first time, is expected to be completed by the end of this year, he said.

Novik said when fully implemented, the software will support about 5,000 end users at the bank and process some 2 million transactions daily.

Cost Savings

The company is projecting a 10% reduction in employee costs in all bank departments as a result of the project. Novik noted that he expects that the IT staff will be cut from 900 to 450 workers through attrition. He also predicted that the software will remove the need for new IT workers down the road.

Further savings, Novik said, will come from eliminating excess servers and workstations.

Novik said the cost savings resulting from the SAP implementation should pay for the software in "several years."

The bank began updating its IT operations in 2001, when officials decided that it was time for a "radical turn" that would lead to an integration of its various processes and would enable employees to share data stored throughout the company, Novik said.

The company selected the SAP for Banking software after evaluating packages from 24 vendors, Novik said. SAP was selected for its broad functionality and ability to scale. The deal was inked in June, he said.

Belarusbank expects that the SAP software will handle standardized payment, credit and deposit processes — key requirements for the bank.

The bank also plans to take advantage of the software's support for International Accounting Standards, International Financial Reporting Standards and Basel II financial reporting requirements, Novik said. That support will be necessary as the bank expands its operations and borrows from international money markets.

Belarusbank had long operated under what Novik called a Soviet style of banking, where each bank unit operates with separate accounting, reporting and administration systems and processes. In that style, he said, the IT systems were decentralized, inefficient and complex, and relied on paper-based workflows.

Novik noted that the decentralized system required 3,400 employees to handle the bank's accounting functions. Many of these people will be reassigned to other duties once the new software is implemented. The company still pays $8 million a year to maintain the old systems, and Novik said that without the switch to SAP, maintenance costs would have increased by about 20% a year.

He also noted that the older software and processes have held back the bank's efforts to make data and products available online for employees and customers. The SAP software should ease the move to online banking, Novik said.

Bart Narter, an analyst at Celent LLC, said banks in the former Soviet Union are starting to turn to the major application vendors as they do more international business.

He said banks still using homegrown software or packaged applications from local vendors often can't meet reporting requirements of international governing agencies. ▶

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GPL Debate Doesn't Concern MySQL CEO

BY CHINA MARTENS

Marten Mickos, *CEO of open-source database vendor MySQL AB, in Uppsala, Sweden, says that he's confident that the wrangling over the current draft of the GNU general public license Version 3 (GPLv3) will help his company in the long run. The MySQL database is distributed under the GPL. In an interview with the IDG News Service, Mickos also talked about other open-source issues and what lies ahead for MySQL.*

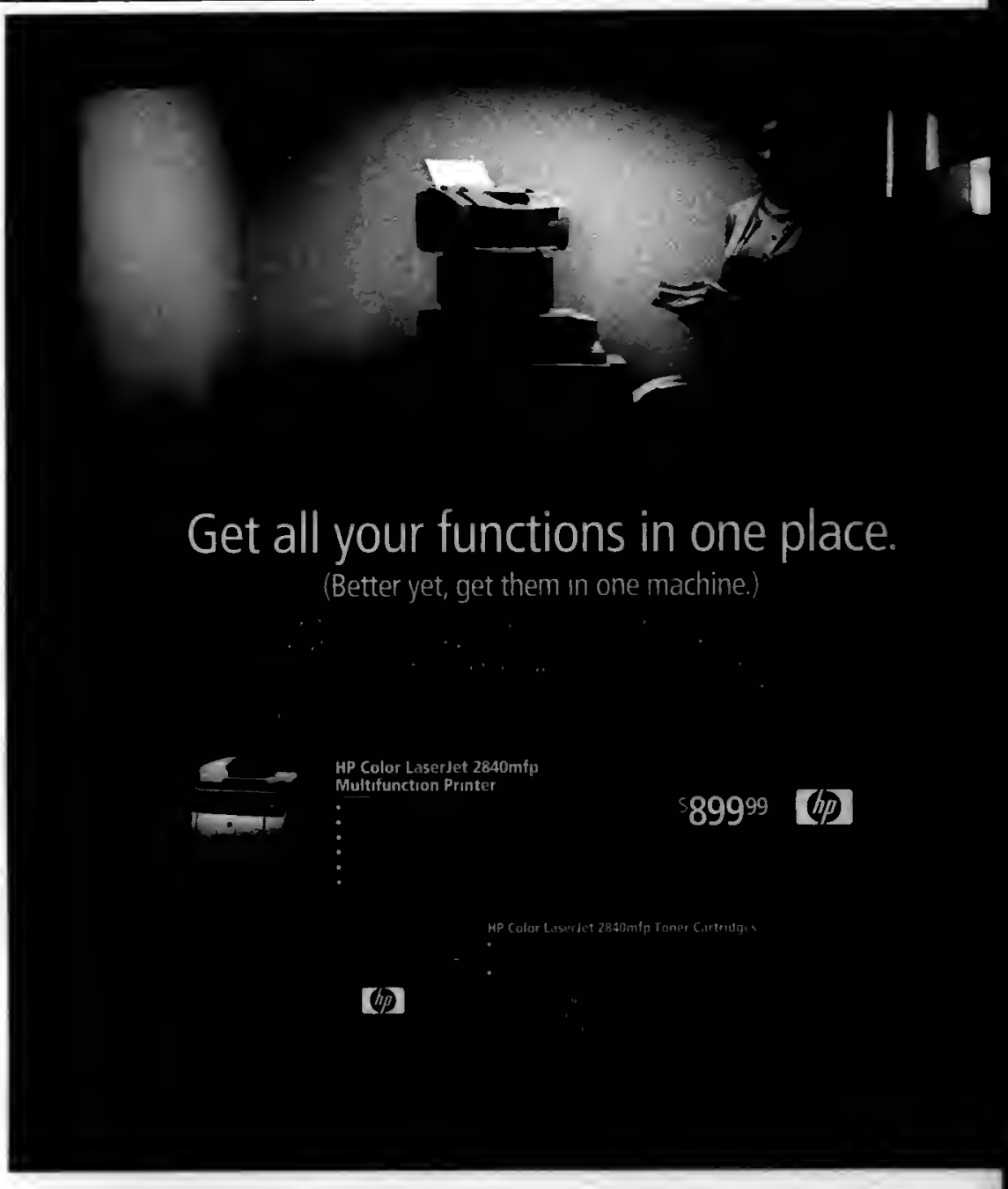
Are you concerned that the schism among open-source developers about the Free Software Foundation's (FSF) second draft of GPLv3 will prompt some users to stick with GPLv2 as others move to GPLv3? It's not a catastrophe if we have two GPLs. It does show how sometimes success can turn against you. The fact that GPLv2 has been so successful means developers don't see a need to change. The FSF has done their homework, and they have good rational reasons for changing it. But they also have a philosophical, dogmatic attitude that many open-source developers don't have. It's time to debate, not time to deliver conclusions.

How do you decide what features to add to the MySQL database? One of the essences of our business is to know when to do what. You need to figure out what the end user wants. We have 10 million users. Thanks to the early releases [of MySQL], we can fix mistakes. We're allowed to make mistakes. For example, take our JDBC [Java database connectivity] driver. The community developed three, four or five. One was clearly the market leader. We acquired and licensed it and brought the developer on board. We didn't decide, but let the ecosystem or Darwinism say what works best.

Is open-source a more forgiving environment than the proprietary software world? No, you're not forgiven, but open-source is self-healing. There's no forgiveness, but someone can cover up for you.

What are MySQL's plans for 2007? We'll see a strong uptake in the enterprise market as the number of users running MySQL 5.0 grows. It takes time for developers to adopt the new version; it's starting to happen.

We'll see more partners. We already have Novell, Hewlett-Packard, Unisys and, recently, Red Hat. With our technologies, there will be Falcon [a transactional database engine under development at My SQL] and MySQL 5.1. We're doing great work on our [graphical user interface] tools and [ODBC drivers].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Fujitsu Unveils High-End Petabyte Disk Array

BY SHARON FISHER

Fujitsu Computer Systems Corp. late last month brought out a pair of storage arrays, including a high-end model with a petabyte-plus capacity.

Both models, the high-end Eternus8000 and the Eternus4000, offer native encryption capabilities, said Fujitsu.

The native encryption capabilities are a cause of concern for Ken Westerback, IT architect at St. Michael's Hospital in Toronto, which currently uses a variety of IBM storage arrays.

Westerback said such features are attractive only if the user can maintain control of encryption capabilities. He said he fears that in certain cases, users may be forced to turn to the storage vendor to retrieve encrypted data.

Both of the new Fujitsu arrays include the ability to store data encrypted with 128-bit Advanced Encryption Standard keys. The key, which is stored on the disk drive itself, is also encrypted.

John Webster, an analyst at Data Mobility Group LLC in Nashua, N.H., agreed that it is important for users to maintain a key management strategy that gives them control of access to encrypted data.

Webster also noted that some users he has talked to have expressed concern that native encryption could slow disk performance.

On the other hand, Dave Russell, an analyst at Gartner Inc. in Stamford, Conn., suggested that despite potential problems, native encryption should be appealing to users because alternative solutions, such as appliances or software, are generally slower or very complex.

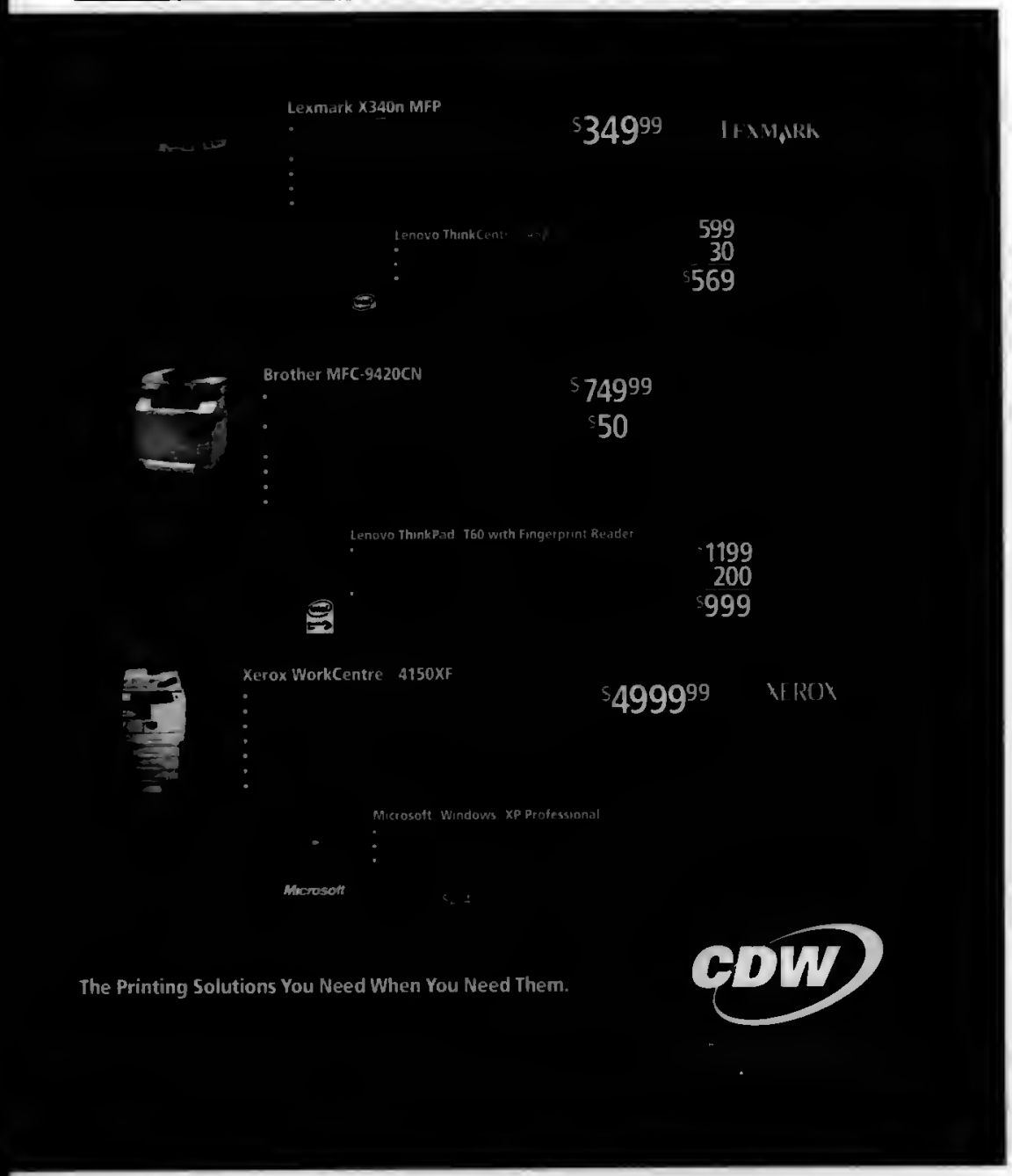
Encrypted Keys

Richard McCormack, vice president of marketing at Fujitsu, said that the new arrays store encrypted keys in four places on a disk, which would likely forestall widespread problems when a single key is rendered unusable. He noted that if one key does became unusable, the server would automatically move to the next key location and log the incident.

McCormack said the new arrays will replace the Sunnyvale, Calif.-based company's Eternus6000 and Eternus3000 products.

The Eternus8000 offers twice the performance of its predecessor array, the Eternus6000, while the Eternus4000 is 50% faster than the Eternus3000, according to Fujitsu. The high-end model can store up to 1.38 petabytes, and the Eternus4000 can store up to 210TB, the company said.

The Eternus4000 starts at $24,500. Pricing for the high-end model was unavailable. Both models are now available.



DON TENNANT

Editorial Integrity

THERE'S quite a juxtaposition on the front page of last week's issue. On the top left corner is the graphic that proudly proclaims our status as ASBPE Magazine of the Year for 2006. Less than six inches below it is a "Note From the Editor in Chief," in which I informed our readers that one of our regular

features included material that we now know to have been plagiarized.

In case you missed it, the note explained that the plagiarism occurred in a section of our "Geek's Garden" feature called "Difference Engines," which highlights key developments in the history of computing. I noted that we found that online reference materials were used verbatim in a number of instances without attribution.

So what is to be made of that awkward juxtaposition? The answer is this: The two seemingly incongruous elements, in fact, go hand-in-hand.

When I reflect on why *Computerworld* has been named Magazine of the Year by the American Society of Business Publication Editors for two of the past three years, I can cite any number of contributing factors. There are the decades upon decades of combined experience and institutional knowledge represented by our editorial staff. There's the spirit of teamwork shared by our talented writers, editors and designers. And there's the heritage of journalistic excellence that was built by those who came before us, and whose hard work drives us to meet the towering standard they have set.

But the factor that underlies all of this — the one without which none of the other factors would really matter — is *Computerworld*'s editorial integrity.

We would not have been named Magazine of the Year were it not for the fact that *Computerworld*'s senior management outside of the editorial department has the utmost respect for our editorial integrity.

We were named Magazine of the Year because we serve the interests of our readers, not the interests of our advertisers. I am the proud recipient of ASBPE's national gold award for editorial writing for an editorial titled "Dear John," in which I lambasted CA Inc. CEO John Swainson for what he wrote in a letter to his users that appeared as a full-page ad in *Computerworld*. I'm smart enough to know that award was won not on the strength of any skills of mine, but on the strength of the editorial integrity the column demonstrated.

We were named Magazine of the Year because we in the editorial department can write what we believe to be important for our readers to know — even when it puts the advertising side of the company in an awkward position — and be certain we will receive the unflinching support of our senior management.

Our editorial integrity is but one component of a corporate culture that is characterized by courage, openness and transparency. That's why you might see us goof up, but you'll never see us shrinking into any shadows afterward.

To my knowledge, this is the first case of plagiarism that has occurred in the nearly 40-year history of *Computerworld*. It literally sickens me that it happened on my watch. Gathering the editorial staff to tell them what had happened was one of the most difficult things I've had to do in my career as a journalist. If you'd seen the shock, disappointment and sadness on their faces, you'd know what I mean.

And having to tell our readers about it wasn't easy, either. But if anyone asks me why we're Magazine of the Year, I can point proudly to that note on page 1 and say, "That's why."

Don Tennant

BRUCE A. STEWART

Bring the Excitement Back

FOUR YEARS AGO, Nicholas Carr wrote his now-famous article "Does IT Matter?" in the *Harvard Business Review*. A firestorm of protest erupted in its wake, but business managers generally bought Carr's message: Application packages and infrastructure are commodities. Buy cheap, and ride the assets to death, because real innovation and competitive differentiation aren't found in IT once everyone's got the same stuff.

IT vendors have spent the past four years combating this message. Yet few of us have jumped on their bandwagons. If you're an SAP client, for instance, have you moved past the R3 version yet? (None of my advisory clients have any plans to upgrade until forced to.) It's not just about SAP, of course; the same is true for J.D. Edwards clients, PeopleSoft clients, Oracle Apps clients and the rest. We don't upgrade until we have to, which means all the vendor innovation brought to market does nothing to counter the "it's all a commodity" message.

Then there's infrastructure. I know of several organizations that have concerns about disaster recovery. All of them considered running Linux on a mainframe, in partitions, to replace Unix servers. Mainframe-based disaster recovery is cheap (for one of these organizations, it was one-fifth of the recovery vendor's price for putting a few servers in the site), effective and readily available. Every one of them decided to go to a Wintel architecture instead. (One proudly told me it was going to use AMD-based servers, as though this were daring.) They all still have the disaster recovery problem staring them in the face.

Why did they go the way they did? Groupthink. No one they knew had done anything other than junk Unix servers for Windows servers, so they followed the herd.

Why are IT people so conservative? None of the IT people I talk to think their business colleagues will support a package upgrade, much less real innovation. It's not that they've asked them, you understand — they're afraid to do that, sure that they'll face rejection. So the myth continues: Software has an indefinite shelf life — even though no other assets in any company do and all of them get replaced periodically. Therefore having to pay for an upgrade because our version is withdrawn from support is proof that IT vendors are predatory. (Somehow, the assumption seems to be that vendors are not supposed to run a profit-making business.) But what did we, as IT professionals, do to prepare for regular upgrades? Nothing.

Infrastructure does get refreshed, but that's something that comes with its own myth: Go with the majority — they can't be wrong. In an IT world with technologies at different scales and price points, that approach leads companies to choose wrong over and over, simply to avoid defending a minority view. The right choice takes all the factors into account, not just cost and not just the supplier's market share. Vendors, too, need paying customers to deliver real innovation — if we won't buy their newer products, why invest in development?

The longer we act this way, the more Carr's view that IT just isn't worth it will become conventional business wisdom. Already we see how low IT-related college enrollments are. Why go into a boring field? Bringing the excitement back to IT starts with IT itself. Get out there and sell the value of the future — your own future depends on it.

MICHAEL GARTENBERG

Leaving Your Laptop, Again

WHEN it comes to knowledge workers' productivity on the road, no tool is as versatile as the laptop. But traveling with a laptop, especially on short trips, can be a hassle, what with airport security, weight and limited battery life.

Most users need only a fraction of a computer's capability when they're on the go. About five years ago, I talked about the notion of leaving your laptop at home when you go on business trips, but at that time, the only real alternative was a BlackBerry.

Five years later, e-mail remains the killer app, but other functions have come to be equally important. The good news is that a new crop of devices, applications and services make it more practical than ever to leave that laptop behind.

When it comes to e-mail, you need to see what kind of server support you'll have on the back end before you buy. If you're using Exchange, you're in good shape, since the latest versions of Exchange come with the ability to work with Windows Mobile devices out of the box. That means you can sync your e-mail, contacts and calendars seamlessly and automatically wherever you are. BlackBerry users will need to either get their IT departments to install a BlackBerry server on the back end or use a desktop redirector program and leave their work machines on to get their e-mail.

In the past, mobile e-mail devices handled simple mail well but usually didn't support attachments. Today, with fast wireless networks and improved device functionality, you can quickly download and read attachments. One caveat: While most devices offer some way of reading Office and PDF files, fewer devices offer the ability to edit them. If editing's important, make sure you ask about it before you purchase.

But there's more to life on the road than e-mail. What about all those documents you have on your PC at the office? Well, thanks to two brilliant pieces of software, Migo from Migo Software and MojoPac from RingCube, you can take your office with you. Migo lets you sync the important files you want on the road, as well as your Internet Explorer bookmarks and even your Outlook in-box, on the memory card or USB flash drive of your choice. MojoPac goes one step further and lets you take your entire desktop, including Microsoft Office and all the other applications you need on the road. You can even use the memory card that's in your mobile device for this purpose. Get a decent-size card of about 2GB or use the extra space on your iPod, and you should be able to take just about every critical file and application you need. When you need PC access and functionality, just plug your memory card into the nearest PC, and your desktop will be instantly replicated.

Traveling without a laptop can be liberating. With the right combination of devices, you can lighten your load at the airport and be more responsive to urgent communications. Even more important, the ability to triage e-mail throughout the day means that when you wearily retreat to your hotel room, you can look forward to something other than reading several hundred messages in your in-box. Like using your mobile device to catch up with your favorite TV shows or listen to some music. But that's for another column.

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TENNANT EARNED an A+ with me for how he came clean. There is no better way to teach others than to be a role model as he did. The world would be much more of a delightful place to live if everybody (especially governments) adopted this kind of moral responsibility.

Michael Frantz
Chairman, Department of Mathematics, Physics and Computer Science, University of La Verne, La Verne, Calif., frantzm@ulv.edu

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DON TENNANT

Editorial Integrity

THERE'S quite a juxtaposition on the front page of last week's issue. On the top left corner is the graphic that proudly proclaims our status as ASBPE Magazine of the Year for 2006. Less than six inches below it is a "Note From the Editor in Chief," in which I informed our readers that one of our regular

features included material that we now know to have been plagiarized.

DON TENNANT is editor in chief of Computerworld. Contact him at don_tennant@computerworld.com.

In case you missed it, the note explained that the plagiarism occurred in a section of our "Geek's Garden" feature called "Difference Engines," which highlights key developments in the history of computing. I noted that we found that online reference materials were used verbatim in a number of instances without attribution.

So what is to be made of that awkward juxtaposition? The answer is this: The two seemingly incongruous elements, in fact, go hand-in-hand.

When I reflect on why *Computerworld* has been named Magazine of the Year by the American Society of Business Publication Editors for two of the past three years, I can cite any number of contributing factors. There are the decades upon decades of combined experience and institutional knowledge represented by our editorial staff. There's the spirit of teamwork shared by our talented writers, editors and designers. And there's the heritage of journalistic excellence that was built by those who came before us, and whose hard work drives us to meet the towering standard they have set.

But the factor that underlies all of this — the one without which none of the other factors would really matter — is *Computerworld*'s editorial integrity.

We would not have been named Magazine of the Year were it not for the fact that *Computerworld*'s senior management outside of the editorial department has the utmost respect for our editorial integrity.

We were named Magazine of the Year because we serve the interests of our readers, not the interests of our advertisers. I am the proud recipient of ASBPE's national gold award for editorial writing for an editorial titled "Dear John," in which I lambasted CA Inc. CEO John Swainson for what he wrote in a letter to his users that appeared as a full-page ad in *Computerworld*. I'm smart enough to know that award was won not on the strength of any skills of mine, but on the strength of the editorial integrity the column demonstrated.

We were named Magazine of the Year because we in the editorial department can write what we believe to be important for our readers to know — even when it puts the advertising side of the company in an awkward position — and be certain we will receive the unflinching support of our senior management.

Our editorial integrity is but one component of a corporate culture that is characterized by courage, openness and transparency. That's why you might see us goof up, but you'll never see us shrinking into any shadows afterward.

To my knowledge, this is the first case of plagiarism that has occurred in the nearly 40-year history of *Computerworld*. It literally sickens me that it happened on my watch. Gathering the editorial staff to tell them what had happened was one of the most difficult things I've had to do in my career as a journalist. If you'd seen the shock, disappointment and sadness on their faces, you'd know what I mean.

And having to tell our readers about it wasn't easy, either. But if anyone asks me why we're Magazine of the Year, I can point proudly to that note on page 1 and say, "That's why."

Don Tennant

BRUCE A. STEWART

Bring the Excitement Back

FOUR YEARS AGO, Nicholas Carr wrote his now-famous article "Does IT Matter?" in the *Harvard Business Review*. A firestorm of protest erupted in its wake, but business managers generally bought Carr's message: Application packages and infrastructure are commodities. Buy cheap, and ride the assets to death, because real innovation and competitive differentiation aren't found in IT once everyone's got the same stuff.

IT vendors have spent the past four years combating this message. Yet few of us have jumped on their bandwagons. If you're an SAP client, for instance, have you moved past the R3 version yet? (None of my advisory clients have any plans to upgrade until forced to.) It's not just about SAP, of course; the same is true for J.D. Edwards clients, PeopleSoft clients, Oracle Apps clients and the rest. We don't upgrade until we have to, which means all the vendor innovation brought to market does nothing to counter the "it's all a commodity" message.

BRUCE A. STEWART is a former CEO and onetime senior vice president and director of executive services at Meta Group Inc. He is now an executive adviser in Vancouver, British Columbia. He can be contacted at bruce@bastewart.com.

Then there's infrastructure. I know of several organizations that have concerns about disaster recovery. All of them considered running Linux on a mainframe, in partitions, to replace Unix servers. Mainframe-based disaster recovery is cheap (for one of these organizations, it was one-fifth of the recovery vendor's price for putting a few servers in the site), effective and readily available. Every one of them decided to go to a Wintel architecture instead. (One proudly told me it was going to use AMD-based servers, as though this were daring.) They all still have the disaster recovery problem staring them in the face.

Why did they go the way they did? Groupthink. No one they knew had done anything other than junk Unix servers for Windows servers, so they followed the herd.

Why are IT people so conservative? None of the IT people I talk to think their business colleagues will support a package upgrade, much less real innovation. It's not that they've asked them, you understand — they're afraid to do that, sure that they'll face rejection. So the myth continues: Software has an indefinite shelf life — even though no other assets in any company do and all of them get replaced periodically. Therefore having to pay for an upgrade because our version is withdrawn from support is proof that IT vendors are predatory. (Somehow, the assumption seems to be that vendors are not supposed to run a profit-making business.) But what did we, as IT professionals, do to prepare for regular upgrades? Nothing.

Infrastructure does get refreshed, but that's something that comes with its own myth: Go with the majority — they can't be wrong. In an IT world with technologies at different scales and price points, that approach leads companies to choose wrong over and over, simply to avoid defending a minority view. The right choice takes all the factors into account, not just cost and not just the supplier's market share. Vendors, too, need paying customers to deliver real innovation — if we won't buy their newer products, why invest in development?

The longer we act this way, the more Carr's view that IT just isn't worth it will become conventional business wisdom. Already we see how low IT-related college enrollments are. Why go into a boring field? Bringing the excitement back to IT starts with IT itself. Get out there and sell the value of the future — your own future depends on it.

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MICHAEL GARTENBERG is vice president and research director for the Personal Technology & Access and Custom Research groups at JupiterResearch in New York. Contact him at mgartenberg@gartenberg.net. His weblog and RSS feed are at http://weblogs.jupiterresearch.com/analysts/gartenberg.

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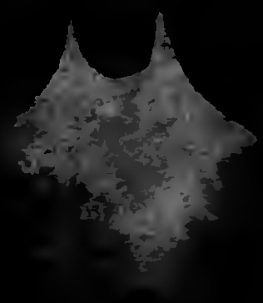
SECURITY MANAGER'S JOURNAL
Awareness Trumps New Security Toys
C.J. Kelly resists the urge to buy more technology and instead turns her attention to raising users' security awareness. PAGE 44

QUICKSTUDY
Predictive Analytics
Get up to speed on this branch of data mining, which is concerned with forecasting probabilities. In business, predictive analytics are often used to answer questions about customer behavior. PAGE 42

OPINION
Security Lessons From Sun Tzu and Hannibal
Mark Willoughby says there are risk management lessons we can learn from Sun Tzu and the Punic Wars as we do battle with hackers. PAGE 48

Cobol: Not Dead Yet

It has become the Rodney Dangerfield of programming languages, dismissed as an outdated and inferior technology. But there are good reasons why Cobol still runs many of the world's largest data centers. **By Robert L. Mitchell**



UNTIL A few months ago, the clearing and billing system for NYSE Group Inc.'s stock options exchange consisted of about 800 discrete Cobol programs running on an IBM mainframe. Today, the entire application set has migrated onto a pair of clustered, quadprocessor Windows servers. The recompiled programs remain in Cobol today, but they won't stay there for long.

"It's not our long-term goal to remain running the Cobol applications. That was a tactical move, designed to slide the existing applications off of the mainframe with as little disruption as possible," says Steven Hirsch, vice president of technology support at the stock exchange. Within the next few years, he expects everything to be rewritten to conform to the NYSE's stan-

Continued on page 28

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to implement these capabilities and may not be available on
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registered trademarks of International Business Machines Corporation
and/or other countries. Other
names may be trademarks or registered trademarks of others. ©2009 IBM Corporation

_INFRASTRUCTURE LOG

_DAY 45: These underutilized storage boxes have proliferated exponentiolly. Their inability ta share capacity has doomed us. We're trapped in o maze of our own creation.

_DAY 47: I tried to give Gil o boost over this wall, but he pulled a hammie.

_DAY 48: I've token back control with IBM System Storage™ SAN Volume Controller. It puts my entire storage universe into a simple, virtualized pool. And, unlike EMC, IBM has fourth-generation virtualization technology and over 2,000 customers. I am seeing results.

_Productivity is up. Utilization is up. I.T. guys lost in mazes of data is down.

IBM.COM/**TAKEBACKCONTROL**/STORAGE

62%

Respondents who said their organizations use Cobol.

43%

Percentage of Cobol users who said that more than 50% of internally developed applications are written in Cobol.

58%

Percentage of Cobol users who said their organizations use Cobol when developing new business applications.

problem. Outside of the mainframe, the current Cobol is viewed today by many Java, Visual Basic and C++ programmers as old-school and into their language's revenge from the dark ages of big iron.

Most new Cobol projects are worth it only to extend or support existing applications on the mainframe. For example, Shama Swartz, director of information systems at a capital goods retailer, Pipe Group Inc. in Lake Zurich, Ill., says his company writes new Cobol applications for its back-end systems to accommodate acquisitions.

When Cobol applications are migrated over to Windows, Linux or distributed systems, they're rarely moved off Cobol because writing them in Cobol might have been the best choice for the application. But not Cobol but to distribute [illegible] Cobol," says Deb [illegible] at Gartner Inc. in [illegible]

Too few shops actually make [illegible] Mike Hoodsy [illegible] at Hu[illegible] Financial Solutions Inc. in Lake [illegible] says he's trying to rewrite [illegible] But, he says, [illegible] Cobol programmers to work on both [illegible] plans to stay put. "I don't [illegible] my advantage. How does that help with customer satisfaction?" he says.

For greenfield application development, the use of Cobol is practically nonexistent. "We're not doing anything else except supporting what we have in Cobol. Any new development is done in SharePoint or [illegible] Builders Inc.'s WebFocus," says James Hursey, administrative team leader at Parker Hannifin Corp. in Cleveland.

"Any new development we do is purely in Java," says Mike Zucker, director of applications development at the University of Miami. Cobol is "out of vogue," he says, but adds that he'll still use Cobol if components for a new application required batch processing. Both Parker Hannifin and UM make extensive use of Cobol on the mainframe for back-end processing and have no immediate plans to change that.

"I went out and tried to find anyone doing bare-bones, new development in Cobol, and I'm hard-pressed to find even one," says Mark Cregan, chief architect at Accenture Ltd. "That's a shame." he says. Cregan calls Cobol a "superb language" for large-scale processing of records. But today, outside of the mainframe world, the [illegible] was invented by the legendary Rear Adm. Grace Murray Hopper simply gets no respect.

Cobol, says Vecchio, "has been tainted with the brush of mainframes."

An Image Problem

The Risks of Rewriting

So for better or worse, the fate of Cobol is inextricably linked to that of the mainframe. Both are likely to be around for a long time to come. Migrating Cobol programs off the mainframe

Continued on page 47

Cobol's Batch Advantage

FOR SOME APPLICATIONS, Cobol can't be [illegible]. Mark Cregan, chief architect at Accenture. During the past year, he wrote a script to [illegible] from a government payroll [illegible] reporting. The environment [illegible] mainframe systems, a relational data [illegible] extract, transform and load (ETL) tool [illegible] warehouse. "We were running a [illegible]," he says. The new Cobol programmer [illegible] the job. "He compacted that into a flat [illegible] and did the whole sort and war[illegible] process in one thing within a 20 [illegible] period. I was blown away," Cregan says.

Mainstream tools for data warehousing and ETL are fine, if a bit expensive, Cregan says. "But when it comes down to bare-bones performance, there's nothing that beats a disciplined approach using sorting technology that Cobol is good at managing." For many Accenture customers, though, Cobol is a hard sell. "I would talk to clients, and they would get that twisted look on their face when I said we used Cobol," he says.

> **But when it comes down to bare-bones performance, there's nothing that beats a disciplined approach using sorting technology that Cobol is good at managing.**
>
> MARK CREGO, CHIEF ARCHITECT, ACCENTURE

Not everyone gives Cobol the performance edge. Steven Hirsch, vice president of technology support at NYSE Group, says the exchange's batch processing, which already runs faster after moving off the mainframe and being recompiled to run on Windows Server, will improve by an order of magnitude once the firm rewrites its Cobol programs in C. "Knowing how our trading engines run in C, a single thread of C could do this much faster," he says.

ROBERT L. MITCHELL

The top five reasons organizations that don't use Cobol cite for not choosing it.

1. Outdated language
2. Inferior to other languages
3. Enterprise too new to use Cobol
4. Skills not available
5. Enterprise is too small to use Cobol

Among Cobol users . . .

45% plan to use Cobol for at least some new applications in the future.

42% plan to modernize Cobol applications by using modern interfaces such as Web services.

36% say they're gradually migrating away from Cobol.

25% would like to do so but say it's too difficult or too expensive.

The top 10 programming languages in current use

Visual Basic	
Cobol	62%
Java	
JavaScript	
VB.Net	
C++	
Perl	
C	
C#	
Cold Fusion	

Percentages of users of the following programming languages who said they use the language "a lot." (Only the top 10 choices are included.)

Cobol	76%
Java	
VB.Net	
ColdFusion	
JavaScript	
C++	
Ada	
Pascal	
Visual Basic	
C#	

Continued from page 25

dard development platforms: Java and C. What's more, other Cobol-based systems that power the New York Stock Exchange are "deeply engaged in a similar replatforming effort," Hirsch says.

NYSE isn't the only organization that would like to abandon Cobol. Of 352 respondents to a recent *Computerworld* survey of IT managers, 218 — or 62% — said they use Cobol. Of those 218 respondents, 36% said they plan to gradually migrate off of it and 25% said that they would do so if it weren't for the expense of rewriting all of that code.

SOURCE: COMPUTERWORLD SURVEY OF 352 IT MANAGERS

So what's wrong with Cobol? The technology, which has been around since 1960, is rock-solid. It excels at batch processing and is practically self-documenting, and tools for it have not only been modernized but also support distributed systems. Vendor Micro Focus International Ltd. even offers Cobol.Net, a part of its Net Express offering that fits neatly into Microsoft Corp.'s .Net Framework and integrates with the Visual Studio suite of programming tools.

An Image Problem

But Cobol is also a procedural language in an object-oriented world. While it's well suited to batch operations, the language isn't as good a fit for developing interactive applications or Web-based front ends. And it has a major image problem. Outside of the mainframe data center, Cobol is viewed today by many Java, Visual Basic and C# programmers as an obsolete and inferior language, a vestige from the dark ages of big iron.

Most new Cobol programs are written only to extend or support existing applications on the mainframe. For example, Shaun Swift, director of information systems at capital goods retailer Papé Group Inc. in Eugene, Ore., says his company writes new Cobol applications for his back-end systems to accommodate acquisitions.

When Cobol applications are migrated over to Windows, Unix or distributed systems, they remain in Cobol because rewriting them is expensive and risky, not because Cobol might be the best choice for the application. "Nobody wants Cobol, but realistically they can't get rid of it," says Dale Vecchio, an analyst at Gartner Inc. in Stamford, Conn.

Rewriting also doesn't usually make good business sense. Mike Dooley, software engineering manager at Harland Financial Solutions Inc. in Lake Mary, Fla., has no plans to rewrite his 1,000 Cobol programs. "What are you getting for the expense?" he says, adding that such a project would take years to complete. "You have to have a valid business reason to do that."

Swift also plans to stay put. "I don't see any advantage. How does that help with customer satisfaction?" he says.

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Continued on page 37

FOR SOME APPLICATIONS, Cobol can't be beat, says Mark Crego, chief architect at Accenture. During one project, he wrote a script to translate information from a government payroll system for job cost reporting. The environment included mainframe systems, a relational database, an extract, transform and load (ETL) tool, and a data warehouse. "We were running a 13-hour processing window. The result was just too painful," he says. Then a Cobol programmer looked at the job. "He extracted that into a flat file and used an old-fashioned sort and was able to process the entire thing within a 20-minute period. I was blown away," Crego says.

Mainstream tools for data warehousing and ETL are fine, if a bit expensive, Crego says. "But when it comes down to bare-bones performance, there's nothing that beats a disciplined approach using sorting technology that Cobol is good at managing." For many Accenture customers, though, Cobol is a hard sell. "I would talk to clients, and they would get that twisted look on their face when I said we used Cobol," he says.

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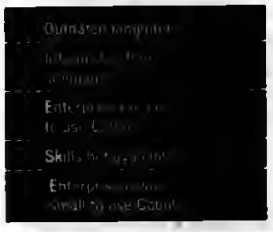
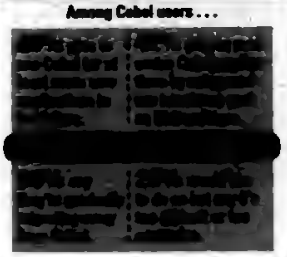
Not everyone gives Cobol the performance edge. Steven Hirsch, vice president of technology support at NYSE Group, says the exchange's batch processing, which already runs faster after moving off the mainframe and being recompiled to run on Windows Server, will improve by an order of magnitude once the Sun machine its Cobol programs in C. "Knowing how our trading engines run in C, a single thread of C could do this much faster," he says.

– ROBERT L. MITCHELL

The top five reasons organizations that don't use Cobol cite for not choosing it.



Among Cobol users . . .



The top 10 programming languages in current use:

Percentages of users of the following programming languages who said they use the language "a lot." (Only the top 10 choices are included.)

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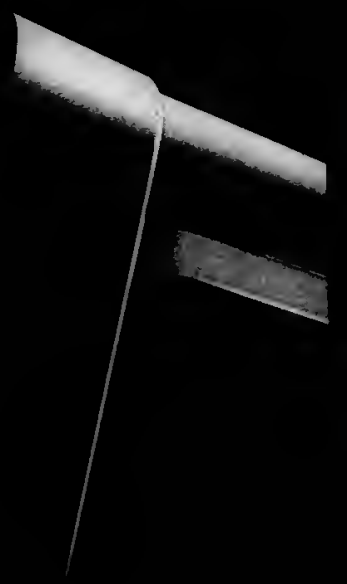

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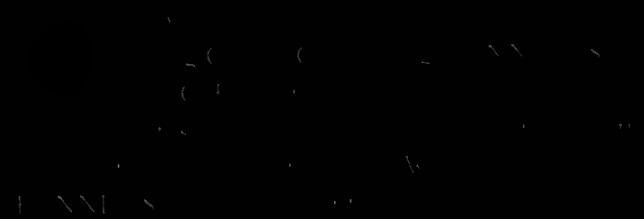

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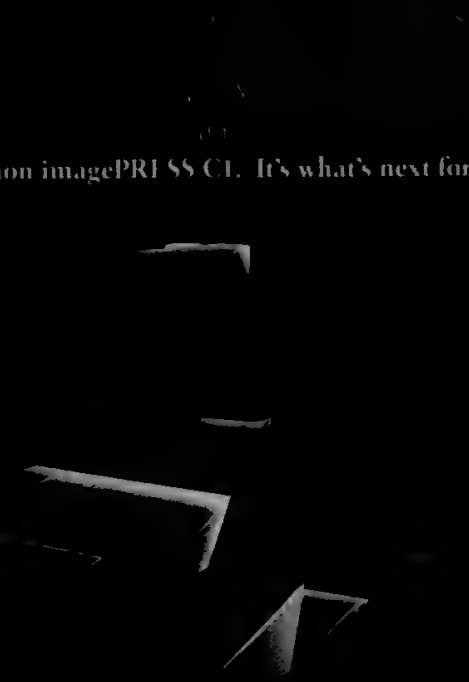

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Continued from page 28

can yield faster performance and cost savings in some situations (Hirsch says the NYSE's options business went from spending $2.5 million annually for a hosted mainframe to $200,000 for an in-house distributed system that runs 10 to 20 times faster for real-time applications). However, organizations may want to think carefully before rewriting those applications in another language. Cobol is easier to read and manage than C# or Java, says Crego, who calls Visual Basic, C and C# "write-only code." And rewriting some Cobol programs can require four or five times as many program lines in Java or C#, says Vecchio. He describes such projects as "a maintenance nightmare waiting to happen."

Rewriting Cobol carries other risks as well. The applications, which often dominate back-end processing, may embody years of accumulated business processes and business rules knowledge created by programmers who are no longer with the organization. "That's where the risks come in. You're changing your code base as well as your knowledge base," Hirsch says.

"Rewriting runs the risk of losing the business rules that are implied in the system that no one knows about," says Crego. Some companies have started rewriting projects only to discover that they don't have the source code, or at least not the current version.

And you don't have to rewrite it. "There will always be systems that can run IBM 360 compiled code," Crego says. Cobol can be modernized, and users can be insulated from the back end by links to Web-based applications. That's what Papé Group is doing. While 95% of its back-end systems remain in Cobol, front-end applications are moving to Web technologies, Swift says.

Business Logic

Dooley sees recompiling for Cobol.Net as a way to facilitate integration of Harland's back-office Cobol applications with front-end programs that are written in .Net languages. "If we get it into Cobol.Net, then the Visual Basic .Net application can call the same routines ... without having to jump through hoops," he says. New interactive online applications, such as a Harland's delinquent-loan system, are written entirely in native .Net languages. With the rest of the Cobol in the .Net fold, he says, "we can make better decisions of where we can move business logic."

Attorneys' Title Insurance Fund Inc. in Orlando is rewriting nearly 2,000 back-end mainframe Cobol programs in C#, a process that senior analyst Kirk Gagnon expects to take three to five years. To do that, the firm is outsourcing maintenance of the system in order to free up the mainframe support staff to train on .Net tools and products including Visual Studio, BizTalk and MSMQ-MQSeries Bridge software. "We're streamlining everything into one common set of software," he says.

But even with skilled mainframe programmers at the helm, the project represents a big leap. "We haven't done anything this large before," Gagnon says.

Migrating off the mainframe and rewriting the code at the same time can be "a recipe for disaster," says Vecchio. He notes that the desire to move away from Cobol is most often driven by one of three factors: the desire to reduce total cost of ownership, a need to address the perceived Cobol skills deficit or the mistaken belief that the only way to attain business agility is to move off Cobol entirely.

Hirsch is taking it one step at a time, first migrating off the mainframe and porting the Cobol programs with as few changes as possible. From there, programs should be reassessed, not just rewritten, Vecchio says. "You need to rethink, How do I perform that function? not just, How do I do it in the same way on a new platform?" he says.

"Why would anyone ever write an application from scratch when there are so many ways to deliver pieces and parts of that?" Vecchio asks. Some programs may not be needed, while others can be eliminated by moving to packaged applications. Business process management tools and rules engines can be used to replace still others.

And perhaps, just maybe, some programs, such as those used in batch processing, should be recompiled and modernized in Cobol. "There are environments where thinking procedurally is better," Vecchio says.

Just because your front end is object-oriented doesn't mean the back end needs to be as well, says Crego. "You could have a different language on the front end being very interactive, and on the back end, you could have a robust business language, and there's no reason why Cobol wouldn't fit into that space," he says.

Is Cobol dead? Not by a long shot, says Vecchio, but it's likely to continue its long, slow decline. Once center stage in state-of-the-art computing, the language is no longer the focus of innovation in business. "New packages and programs aren't being developed [in Cobol]. Skills are declining. All of these things are working against a resurgence," he says.

Organizations should plan to move off Cobol at some point, but that possibility shouldn't be the driving force behind any decisions.

"Focus on what is best for your organization, not what is the hot technology right now. That doesn't mean that the hot technology isn't where you want to get eventually," Swift says. But business process needs, not the choice of programming language, should dictate when to make such a move.

Hollywood Entertainment abandoned an effort to rewrite 1.3 million lines of code and instead modernized its Cobol.

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Continued from page 28

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DALE VECCHIO, GARTNER

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MARK [illegible]

CASE STUDY

Hollywood Entertainment abandoned an effort to rewrite 1.3 million lines of code and instead modernized its Cobol.

MOST IT MANAGERS looking to modernize Cobol programs are migrating off of a mainframe. For Wilsonville, Ore.-based Hollywood Entertainment Corp., the challenge was migrating off of the PC.

For 20 years, the point-of-sale system used at the company's 2,000 Hollywood Video stores nationwide consisted of 650 Cobol programs – 1.3 million lines of code – running on MS-DOS. After an effort to rewrite the programs from scratch in 2003 failed, the company ended up recompiling the system to run on Windows using Net Express from Micro Focus.

Rewriting seemed like the right thing to do at the time, says Martin Tromblee, Hollywood Entertainment's development manager for store systems. "If you have an application that's been out there for that long, you have a lot of areas where there have been bandages applied. It feels like you'd gain more if you could get that fresh start."

It didn't work out that way. By the end of 2004, 80% of the code had been rewritten, but the project was behind schedule, and the beta code had problems. "It wasn't performing as well as it should have," and some things functioned differently, which would have required employees at every store to be retrained, Tromblee says. "We have 23,000 people running this application," he says.

Deadlines slipped, and the project was expected to be only half finished by the original completion date.

"That was more risk than we were interested in," he says. So the company decided to repurpose the existing programs for the Windows environment.

The migration, which took a year to complete and roll out to 2,000 servers and 15,000 PCs, was still a lot of work. Recompiling the Cobol was the easy part, he says. While more than 90% of the code was in Cobol, some was written in assembly language. Rewriting that in C and C++ was time-consuming. "It was difficult to port that over," Tromblee says. "We probably faced more challenges with C++ than we did with Cobol."

The system rollout, completed last December, minimized retraining. Now Tromblee's staff is working on migrating data currently residing in flat files to a SQL Server database.

Not everything will be written in Cobol, however. For example, a new in-store self-checkout system was written in C#. For better integration, Tromblee says he'd like to migrate his Cobol environment one more time to run in Cobol.Net.

He says his company went to Cobol for Windows because moving from DOS to Windows was enough to handle without also moving from an unmanaged environment to a managed one. But now, he says, "it would be nice to be in a fully managed environment . . . to step from Cobol to C# and back."

– ROBERT L. MITCHELL

IBM

AMD 64 Opteron

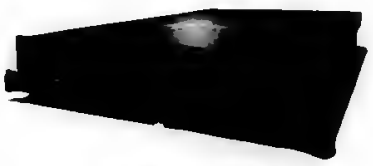
_INFRASTRUCTURE LOG

_DAY 28: These slow, inefficient boxes don't have enough power to run my high-end business apps. They don't have enough power to do anything except crash.

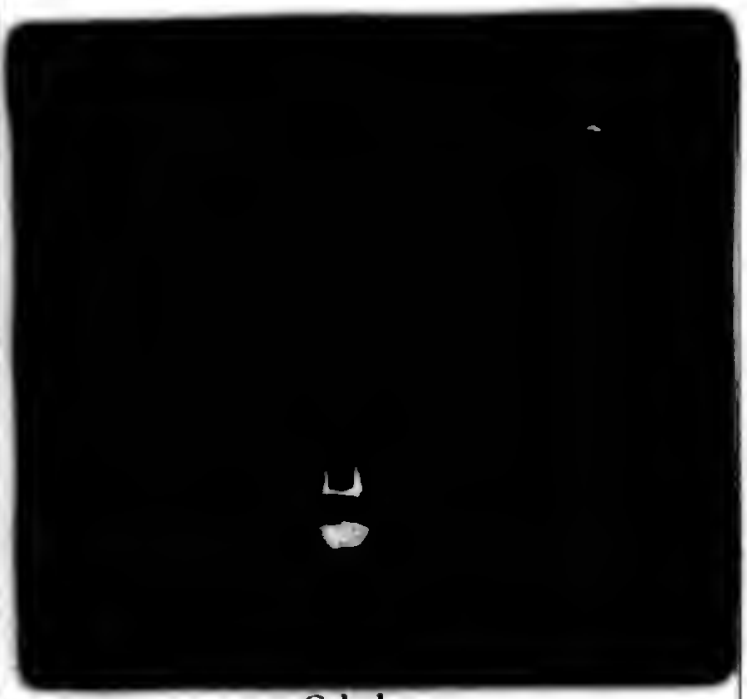
_Need sleep. Will try to dream that I am I.T. King of a planet that only produces really powerful servers.

_DAY 30: I've got it: the IBM System x™ with the AMD Opteron™ Processor. It has more power and more efficiency than I ever imagined in o standards-based server. IBM Xcelerated Memory Technology™ can let us access data up to 15 percent faster than ather servers for maximized performance.* I can finally sleep in my own bed again.

_I have taken back control. I am Ned, benevolent I.T. King of this...uh, data center.



IBM.COM/**TAKEBACKCONTROL**/X



Cobol Coders: Going, Going, Gone?

Many IT managers slowly migrating away from Cobol wonder whether they'll run out of Cobol programmers before they run out of Cobol code.

By Gary Anthes

COBOL, that mainstay of business programming throughout the 1960s, '70s and '80s, is not going away anytime soon. In a *Computerworld* survey early this year of IT managers at 352 companies, 62% of the respondents reported that they actively use Cobol. Of those, three quarters said they use it "a lot" and 58% said they're using it to develop new applications.

Nevertheless, with a few exceptions, companies aren't enthusiastically expanding their use of Cobol. In the survey, of those who use Cobol, 36% said they are "gradually migrating away" from it, 16% said they will replace it "every chance we get," and 25% said they'd like to replace Cobol with something else but have found that too difficult or too expensive.

The persistence of Cobol — welcome or not — presents a dilemma for many companies. Their legacy code will require significant resources for years to come, yet younger software developers often don't want to work with Cobol, and in most cases, they're no longer learning it in school. And while there are thousands of Cobol coders still in the workplace, a large percentage of them are nearing retirement age.

In the *Computerworld* survey, 45% of the respondents whose organizations use Cobol said their ability to hire Cobol programmers was either "worse" or "much worse" than their ability to hire programmers for modern languages such as Visual Basic, C++ and Java.

Companies are dealing with the squeeze between supply and demand in a variety of ways. Some outsource Cobol work, some bring in contract Cobol programmers, and others find clever ways to motivate their cadres of Cobol coders. A number of organizations have found that the best way to keep Cobol programmers happy is to get them to focus on the applications and end users, not the technology.

Whether through devotion to duty, an interest in the applications or just plain inertia, many Cobol programmers seem happy with their lot — or so say their bosses. In the survey, asked if it's hard to motivate programmers to use Cobol, 32% of IT managers whose organizations use Cobol said yes, and 64% said no.

Cobol Goes to Court

Terry Walker, manager of application development at the Connecticut Judicial Branch, says she worries about running out of available Cobol people before she's able to migrate systems to newer technology. Walker has a software development and maintenance budget of $4.5 million a year and a development staff of 50, with 15 devoted exclusively to Cobol. The state agency's payroll, human resources and other administrative systems are written in Cobol, as are the judicial applications for its civil and criminal courts and child protection department.

"These systems are fairly sophisticated," Walker says. "Some have been around for 20 years; there's a lot in them, and they work pretty well."

Nevertheless, she says, "we'd like to migrate off Cobol, but whenever we've gone out to look at packages or at [writing custom software], it was cost-prohibitive."

The pool of Cobol programmers for hire is shrinking, and those available often require costly relocations, says Walker. She says she brings in consultants to work as Cobol coders when she needs to add staffers, but consultants with Cobol experience are getting harder to find as well. Walker says her Cobol programmers are "older," as are most job applicants with Cobol experience. Hiring programmers for Cobol work presents a catch-22, she says, because the ones willing to do it are the ones who will retire soonest.

And, Walker says, it's no simple matter to train novice programmers in Cobol because local schools no longer offer Cobol courses, and on-staff Cobol programmers don't have the skills to train others.

Asked about the possibility of outsourcing Cobol maintenance to India, Walker says the state government probably would bar that, "Also, the company I left before I came here was doing that, and that was one of the reasons I left," she says. "I felt like it wasn't giving users the quality they deserved because of time and language differences."

Phil Murphy, an analyst at Forrester Research Inc., says companies that are having trouble finding experienced Cobol programmers should hire programmers with other skills — especially business skills and applications knowledge — and train them in Cobol internally. Murphy says companies should ask their senior Cobol programmers to train the younger ones. Many of these older workers don't want to learn new technology and aren't suited for management positions. "So their career path is to mentor new programmers," he says.

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SOURCE: COMPUTERWORLD SURVEY OF 352 IT MANAGERS, MARCH-APRIL 2006

Securing Your IT Department

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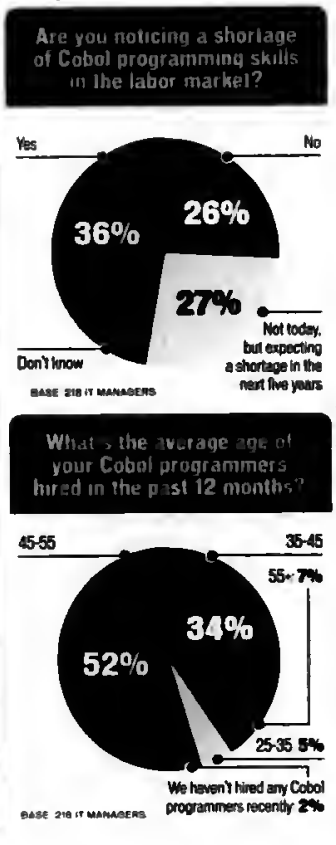
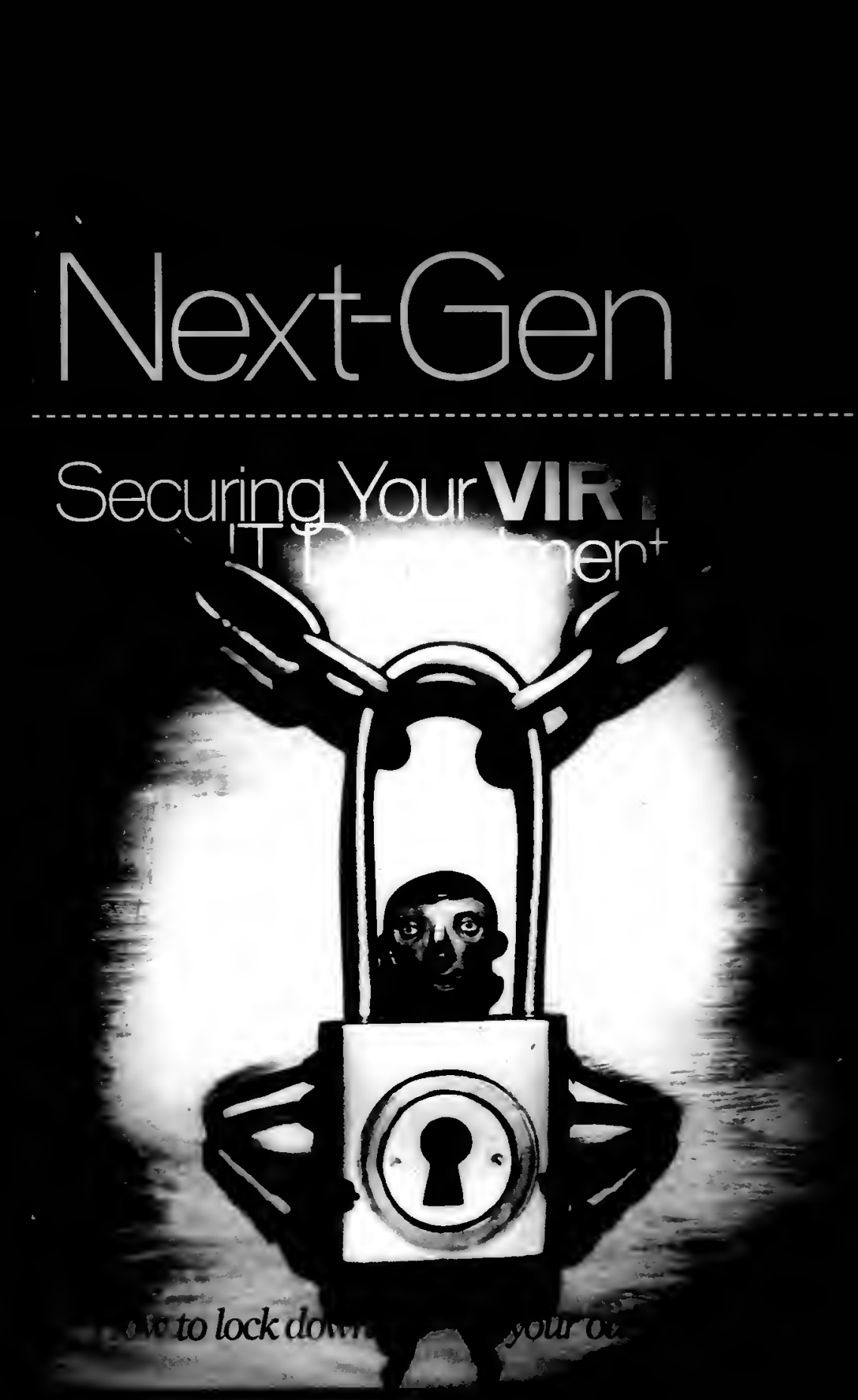
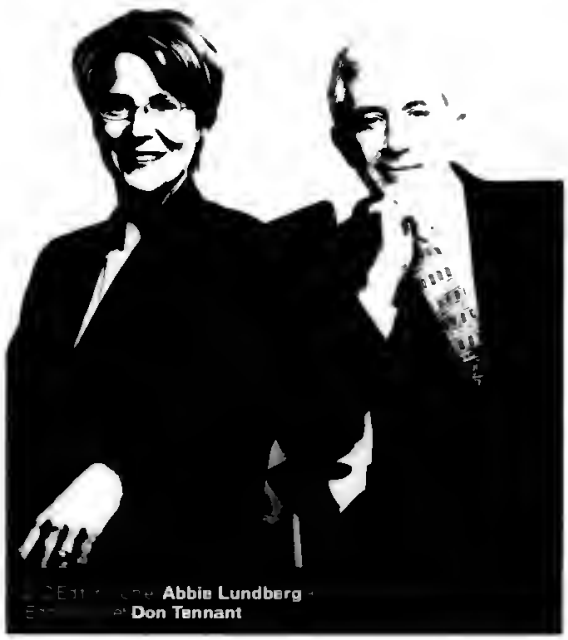

Are you noticing a shortage of Cobol programming skills in the labor market?
Yes
No
36%
26%
27%
Don't know
Not today, but expecting a shortage in the next five years
BASE 218 IT MANAGERS
What's the average age of your Cobol programmers hired in the past 12 months?
45-55
35-45
55+ 7%
34%
52%
25-35 5%
We haven't hired any Cobol programmers recently 2%
BASE 218 IT MANAGERS
SOURCE COMPUTERWORLD SURVEY OF 352 IT MANAGERS, MARCH-APRIL 2006

Next-Gen

Securing Your VIR
IT Deployment





Abbie Lundberg
Don Tennant

Certain

THE CONUNDRUM

It is old is the data center itself. Maximizing business efficiency may well require you to offload some portion of your IT operation to a third party, yet how can you be certain the third party will maintain the security of the data that's the lifeblood of your business?

It's a challenge that CIOs will increasingly confront because the economic conditions that have created it are hardly abating. Forrester Research predicts that spending in the U.S. for IT outsourcing will grow from $68 billion in 2006 to $72 billion in 2007. And while its forecast is more modest, IDC projects that worldwide spending on IT outsourcing services will grow at an annual rate of nearly [illegible] to reach $112 billion by 2010.

Protecting that investment means protecting the corporate data that's entrusted to the outsourcer.

In this issue of Next-Gen IT, a series produced jointly by the editorial teams of *CIO* and *Computerworld*, we examine the issues involved in ensuring that your outsourced data is properly locked down. The examination is a crucial one. More than 90% of respondents to an International Association of Outsourcing Professionals survey said security breaches related to outsourcing would be "catastrophic" to their businesses.

If catastrophe strikes, moreover, the blame will rest not with the outsourcer, but with your company. And even if catastrophe is avoided, auditors and regulators will hold your company responsible if your outsourcer fails to comply with regulatory standards.

Fortunately, there's a lot you can do to minimize the chances of finding yourself in that unfortunate circumstance — and to minimize the fallout if you do. That's what this issue is all about. As Galen Gruman reports in "Security Can Never Leave" (page 3), M&T Bank, for example, gave its outsourcer an incentive to avoid problems by making it liable for the cost of notifying affected customers of data breaches. And in Robert L. Scheier's piece titled "Virtual Security: The Devil Is in the Details" (page 11), you'll read about how companies are taking tacks such as using dashboards to dynamically monitor their outsourcer's security performance.

We invite you to take full advantage of the information and pointers in this issue — and on our Web site (*ITNextGeneration.com*) — so you can be certain that your virtual IT department is as secure as the one you're sitting in. ◆

"Security Can Never Leave"
PAGE 3

"Virtual Security: The Devil Is in the Details"
PAGE 11

"Back-to-Basics Security"
PAGE 15

CIO COMPUTERWORLD Computerworld editor in chief **Don Tennant** ■ CIO editor in chief **Abbie Lundberg** ■ Computerworld special projects editor **Ellen Fanning** ■ CIO executive editor **Christopher Koch** ■ Art director **April O'Connor** ■ Illustrator **Red Nose Studio** ■ Managing editor/production **Eugene Demaitre** ■ Copy editor **Monica Sambataro** ■ Site architect **William Hall**

EDITORS' NOTE

Abbie Lundberg
Don Tennant

Virtually Certain

THE CONUNDRUM is as old as the data center itself. Maximizing business efficiency may well require you to offload some portion of your IT operation to a third party, yet how can you be certain the third party will maintain the security of the data that's the lifeblood of your business?

It's a challenge that CIOs will increasingly confront, because the economic conditions that have created it are hardly abating. Forrester Research predicts that spending in the U.S. for IT outsourcing will grow from $68 billion in 2006 to $72 billion in 2007. And while its forecast is more modest, IDC projects that worldwide spending on IT outsourcing services will grow at an annual rate of nearly 5% to reach $112 billion by 2010.

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NEXT-GEN ONLINE

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CIO COMPUTERWORLD THE VOICE OF IT MANAGEMENT

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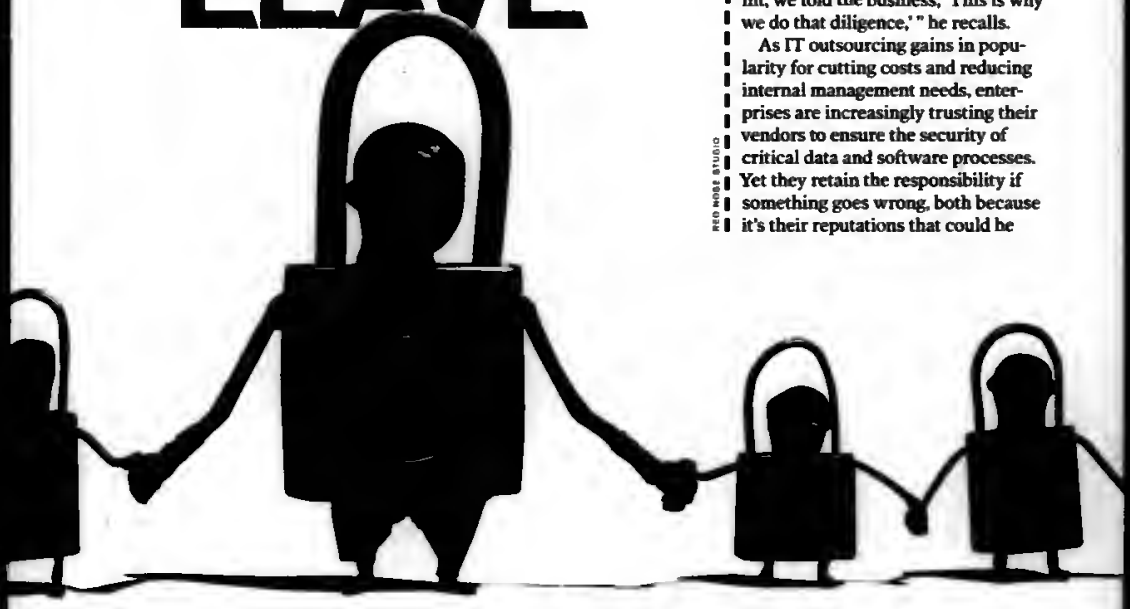
You can outsource your work to others, but the responsibility for security — and accountability for any problems that occur — will always be yours alone.

Security CAN Never LEAVE



RED NOSE STUDIO

BY GALEN GRUMAN

MATT SPEARE had to do something that's difficult for IT leaders (and their career prospects): He had to nix a deal that the business liked — a lot. The business people at Speare's company, M&T Bank Corp., wanted to sign on with an outsourcer to handle some of its data management. However, Speare, who is M&T's corporate information security officer, didn't like what he saw in his team's audit of the outsourcer's security procedures.

"It pointed out management issues in their control environment which they could not remediate," he says.

Despite some internal grumbling, M&T selected a different vendor. Speare says, "We had a lot of hand-wringing over this, as well as project delays." A few months later, the bypassed vendor, which Speare refuses to name, made headlines for allowing credit data for millions of people to be stolen. "As soon as the headlines hit, we told the business, 'This is why we do that diligence,' " he recalls.

As IT outsourcing gains in popularity for cutting costs and reducing internal management needs, enterprises are increasingly trusting their vendors to ensure the security of critical data and software processes. Yet they retain the responsibility if something goes wrong, both because it's their reputations that could be

A [illegible] Pair Of Security Eyes

Not quite sure you can trust your outsourcer's security? Then don't. Instead hire a managed security service provider (MSSP) to manage security for the outsourcer.

That's the strategy many Fortune 500 companies take, says Doug Howard, chief operating officer at Counterpane Internet Security Inc., an MSSP in Mountain View, Calif. Many traditional IT outsourcers, such as IBM, are better at ensuring system availability and uptime than at ensuring security, he says. Besides, hiring an MSSP along with the outsourcer means the two vendors are keeping an eye on each other's performance. While this setup results in two vendor relationships to manage, he says, it generally costs no more than securing the outsourcer yourself.

Such specialized help could be a nice addition to the IT skills of your core outsourcer – if you're willing to manage two outsourcers rather than one.

– ROBERT L. SCHEIER

[illegible] and [illegible] ensure regulators hold [illegible] accountable for the actions of their providers. "Outsourcing doesn't mean that the internal organization isn't responsible anymore," says Eric Litt, chief information security officer at General Motors Corp. "You still have the responsibility and the accountability to the business, so you have to define the policies."

Indeed, [illegible] security burden actually increases when it's considering outsourcing, because it's no longer just about being able to protect your own assets; it's about knowing whether the outsourcer knows how to protect itself, too.

"Outsourcing actually requires an even higher-performing [management] staff than if it's in-sourced," says Litt. "You need to know at least as much as the outsourcer does."

CIOs are ultimately responsible for making sure that their companies are protected, regardless of where the work resides. They need a strategy for building security competence in-house and monitoring it with their outsourcers. "You can't outsource your problems to fix them. You can't expect the service provider to do that," says Mark Dobel, a partner at accounting firm PricewaterhouseCoopers.

> **"You can't outsource your problems to fix them.**

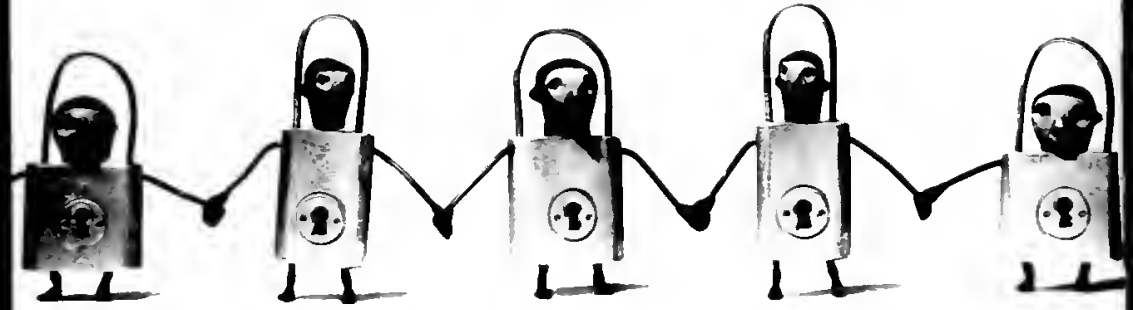
Ensuring the security of your outsourced IT operations doesn't start or stop with due diligence. **Instead, it requires the following multistep process:**

1. Assess your risks and define your security needs.
2. Validate vendor ability through due diligence.
3. Spell out the requirements contractually.
4. Monitor performance after you've chosen the outsourcer.

Validating Potential Vendors

For most companies that outsource IT, validating vendors' processes and capabilities is the most important step to ensuring security. There are multiple elements in this strategy.

Continued on page 6



A Pair Of Security Eyes

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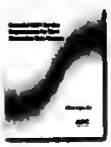

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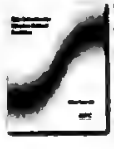

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Continued from page 4

Southwest Airlines Co. starts with a detailed request for proposals (RFP) for all aspects of the outsourcing relationship, including security. "Asking a lot of questions upfront sets the expectations, so that tends to weed out those vendors who can't deliver," says Robert Schaffer, senior director of technology at the airline.

Likewise, when GM seeks outsourcing vendors, it first defines a statement of work that includes service-level agreements and metrics, Litt says.

"Savvy customers are asking questions earlier," notes Dave Bixler, chief information security officer at Siemens Business Systems, which provides outsourcing services.

In addition to details on processes and policies, CIOs should ask for details on staff turnover and credentials, which are indicators of how well the outsourcer can satisfy its promises, says Scott Crawford, an analyst at Enterprise Management Associates. "You don't want them to have mail-order diplomas," he says.

"You're not going to have all the questions and answers upfront," cautions Pawan Verma, managing director of the outsourcing advisory practice at PricewaterhouseCoopers. "What you need to achieve is a confidence that they can deal with issues. Look for a comfort level that you can work with the folks across the table."

Bixler says most customers deal with security by having a face-to-face meeting with him to assess whether he knows what he's doing. But Bixler cautions against relying too much on that personal evaluation. "What if I leave?" he asks. He encourages customers to do their homework first.

Go Beyond the Usual Suspects

Evaluating RFP responses is just the first step in the vetting process. Corporate IT should also talk to vendors' customers and conduct Web and other searches to see if there have been publicized security failures, financial concerns or other indicators that a vendor might not be able to deliver.

"Google is your friend," says Andrew Jaquith, an analyst at Yankee Group Research Inc. It's particularly useful to ask reference customers why they did not choose another vendor; this helps build up pros and cons across the vendors you're considering, rather than just see the successes, he adds.

Also ask to see copies of third-party certifications, third-party audits and internal audits, recommends Jaquith. Even if you don't get everything you seek, you'll get a better sense of the vendor's responsiveness and openness, both of which are crucial to a successful relationship. "You're looking at the preponderance of evidence," he adds.

MICHELLE ARNOLD

> "Outsourcing actually requires an even **higher-performing** [management] staff than if it's in-sourced."
>
> **ERIC LITT,** CHIEF INFORMATION SECURITY OFFICER GENERAL MOTORS CORP

But be sure to know what audits the vendor has or should have by talking to other customers and auditors, advises Litt. "Otherwise, they'll just say it's not available," he says.

When you do get them, don't take all certificates and audits at face value. The Statement on Auditing Standards (SAS) 70 self-audit, for example, measures whether a vendor delivers on the processes it identifies — but it doesn't evaluate whether those are the right processes, notes PricewaterhouseCoopers' Lobel. Also watch out for "qualified" SAS 70 audits, which mean that the internal controls for the identified processes are not being applied consistently, calling into question actual performance, he says.

Take a Look at Yourself

That's why, at least for particularly critical IT functions, organizations should consider conducting their own audits, suggests Southwest's Schaffer.

Even smaller companies can do this, says Steve Withers, IT director at EaglePicher Technologies LLC, a manufacturer in Joplin, Mo. Withers says he visits his outsourced data center regularly "to see how seriously they take security in between audits."

Most industries have no mature auditing or certification standards that enterprises can rely on to assess potential vendors. "The standards are not as complete as they need to be," observes Litt, although there is some draft work under way. The financial industry is furthest ahead: The banking industry has the Payment Card Information data security standard and the Financial Institution Shared Assessments Program.

For Web-based applications, the Web Application Security Consortium has defined security standards. More broadly, the ISO 27001l standard for auditing security management is also emerging as a system for sharable audits, especially in India, explains Jaquith. And the American Institute of Certified Public Accountants Privacy Task Force has recently developed its Generally Accepted Privacy Principles to enable third-party audits whose conclusions cover the needs of many industries.

> "Even if vendors provide the **appropriate audits**, the legal controls [overseas] to enforce them don't exist, so you have **less leverage**. And it's harder to get **restitution**."
>
> **STEVE GORDON,**
> PROFESSOR OF IT MANAGEMENT
> BABSON COLLEGE

Going Global Increases Risks

If you're outsourcing to other countries, there are additional concerns, says Steve Gordon, a professor of IT management at Babson College. "Even if vendors provide the appropriate audits, the legal controls to enforce them don't exist, so you have less leverage. And it's harder to get restitution," he notes.

Wanting to gain outsourcing business, some nations are emulating U.S. laws so the legal frameworks match. Generally, European countries are as strict as or stricter than the U.S., and Canada is fairly equivalent.

Prodded by India's National Association of Software and Service Companies, that country's government has begun aligning its laws to U.S. standards, says Rena Mears, privacy and data protection service director at accounting firm Deloitte & Touche USA LLP.

Japan has developed stricter requirements, mainly in response to demands from Japanese companies rather than to satisfy outsourcers that serve the U.S., she notes.

China is assessing its legal system, but for now, "there's little control over data protection and licensing," says PricewaterhouseCoopers' Verma.

Aligning the outsourcers' corporate presence with the countries where you need legal protection can also help. M&T Bank solves the dilemma by requiring any outsourcers it uses to have incorporated entities in the U.S. so they're subject to U.S. laws.

Similarly, companies often look to European outsourcers to handle European customers' data. The data protection laws there are stricter than in the U.S., and European outsourcers are generally better versed in the requirements, says Don DePalma, president of IT consultancy Common Sense Advisory Inc.

Get It in Writing

Once a CIO is satisfied with an outsourcer's ability to secure its data and applications, the next step is to codify the expectations, monitoring mechanisms and liability in case of failure.

Some CIOs say that rather than rely on the outsourcer's experience with other customers or a boilerplate contract, companies should develop codification from scratch.

"We think it is a horrible mistake to take the vendor's contract and modify it," says Speare. "You should have your own language." Of course, vendors would prefer not to have separate contracts with each customer.

Wherever a contract's language originates, CIOs should view them as dynamic documents, updating them as needs change. For example, M&T Bank changed the liability provisions in its outsourcing contracts last year after regulations arose that mandated the disclosure of privacy breaches to affected customers. As an incentive to avoid problems, M&T made the outsourcer liable for the cost of notifying affected customers of data breaches — $137 per customer, says Speare.

Keep Monitoring

It's nearly impossible to technologically monitor how outsourcers keep data secure on their own premises. Monitoring tools vary widely, and monitoring could unintentionally expose data from the outsourcer's other customers. That's why consultants and analysts recommend that businesses insist on a right-to-audit clause in their contracts, so they can do their own checking of the outsourcer's processes to ensure that the service levels are maintained.

But customers rarely follow through, says Bixler. The reason: "It's very resource-intensive, and most companies

Continued on page 10

Seize the Future Today

Forward-thinking companies are building the next generation of IT on SOA

THE NEXT GENERATION of IT is not just about the competition or the bottom line. It's about the future of your business.

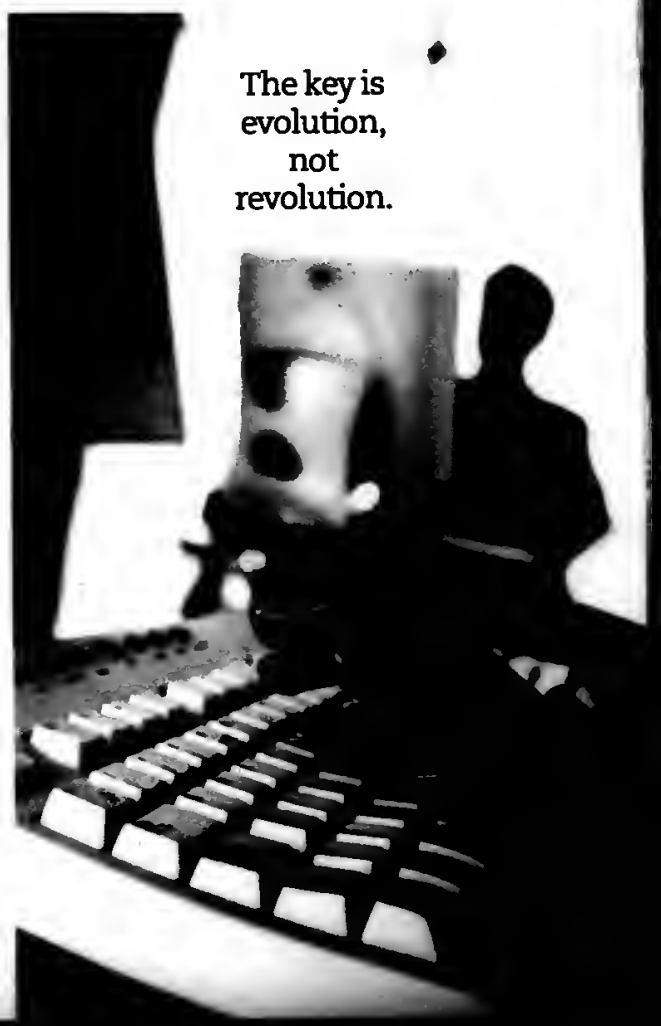
With 90% of your budget going to just maintaining your current IT environment, the short-term choices you make now around modernizing your mainframe and legacy environment can put you on the path to service-oriented architecture (SOA). The platforms that you choose to support SOA will determine:

- Your cost structure for years to come
- Whether you'll be ready and able to adapt to subtle or even radical shifts in your company's business
- Your standing as a competitive leader or follower in your industry

The Next Generation Unveiled

What does the next generation of IT look like? One of the foremost elements of modernized IT is SOA. SOA is critical to helping businesses respond more quickly to changing market conditions. What's more, because it simplifies interconnections, SOA can ensure the best use of IT assets going forward. But the key is evolution, not revolution. Taking a thoughtful approach with your current legacy environment can ensure that SOA is cost-effective as well as effective in increasing productivity.

Not surprisingly, though, while a recent IDC end-user survey* shows that US companies are accelerating their investments in SOA-based services, it isn't all smooth sailing. In a statement, Marianne Hedin, program manager for IDC's Worldwide Services and Service-Oriented Architecture and an author of the survey, noted: "Companies which will try to implement



SOA on their own... will soon discover that it is very difficult, if not impossible, to successfully roll out a large or corporate-wide SOA initiative without outside help."

In fact, without a sound underpinning, SOA initiatives can fall short of their potential.

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IT modernization, in support of initiatives such as SOA, must provide the ability to rapidly deliver new capabilities while also providing mainframe-class performance, reliability, and quality of service. Through the modernization process, enterprises need to be able to build a flexible and manageable environment that can take full advantage of an SOA and shared IT infrastructure, enabling you to respond to change with speed and agility, reduce operational costs, and also make the best use of your company's most valuable resources—its people and information.

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* SOA-Based Services Buying Trends: A 2006 Survey of U.S. Companies

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Can You Trust SaaS Providers?

An emerging form of outsourcing is software as a service (SaaS), in which a vendor has a common application used by multiple customers. Unlike traditional outsourcing, there is no customization for each client, so the security policies are generally not negotiable beyond lower-level functions such as encryption standards or use of virtual private network connections.

"SaaS providers should make their security and privacy policies clear upfront," advises Steve Gordon, professor of IT management at Babson College.

SaaS providers can go a long way to gaining CIOs' trust if they get reputable independent audits that they share with customers, says Andrew Jaquith, an analyst at Yankee Group. "It doesn't need to be done for every customer," he says.

General Motors eyes SaaS providers cautiously given its inability to impose its desired level of control on them. "If their contracts don't meet our security needs, we'll end discussions," says Eric Litt, the automaker's chief information security officer.

"We wouldn't use SaaS," says Matt Speare, corporate information security officer at M&T Bank. Speare is concerned about data management. "They intermix data, which contradicts financial services rules that require data segregation to ensure that data is truly destroyed" when it is no longer needed, he says. Both Litt and Speare say SaaS is better suited to smaller companies that have less risk or ability to manage risk.

Even if a company bars SaaS because of security concerns, such arrangements could still be a problem, Gordon notes, because departments may use a SaaS provider without IT's knowledge. IT has some recourse, including blacklisting unapproved SaaS providers' Web addresses from the network and using content filtering to detect leakage of corporate data to a Web site (which may indicate transfer to a SaaS system). But neither solution is perfect, so stubborn users may still use SaaS behind your back.

– GALEN GRUMAN

[illegible] Systems LLC, to create a trust [illegible] for Eagle Picher's data in [illegible] outsourcer goes out of [illegible]. And when you leave, "how [illegible] sure that all your data is [illegible]," asks DeFabio. [illegible] the question is not academic. DeFabio was shocked to discover [illegible] months after Common Sense [illegible] relationship with Salesforce [illegible] the company's data was still [illegible] CRM provider's servers, even [illegible] Salesforce.com had promised [illegible] the data after a month. Common Sense learned of the retained [illegible] only when it began discussing a [illegible] relationship with Salesforce.com. [illegible].com declined to discuss its [illegible] policies.

How to End The Relationship

You don't have infinite resources, so you can't solve everything.

It's All About Risk Assessment

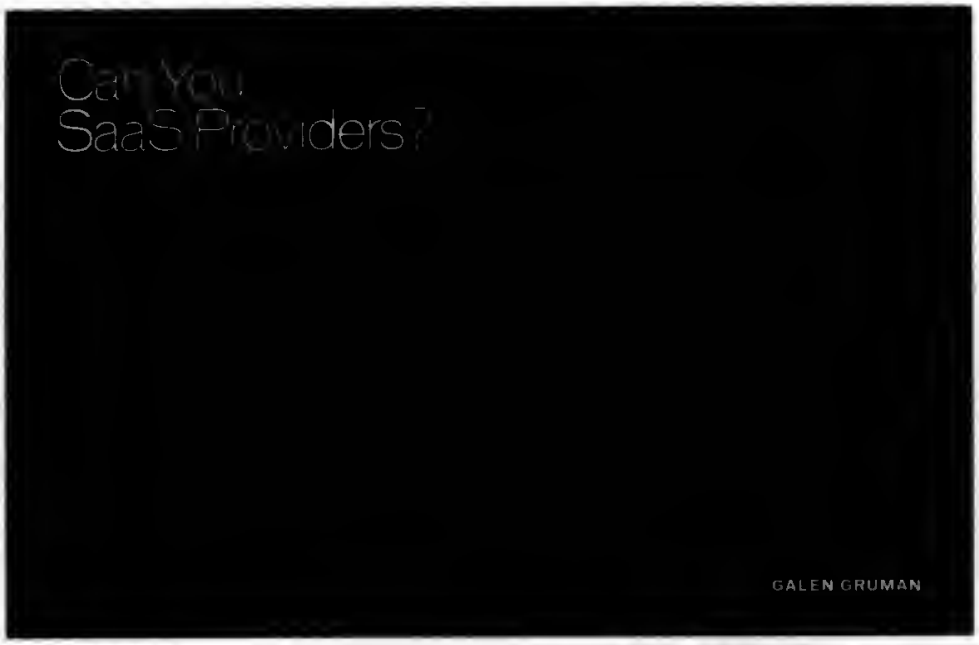
Rena Mears

There's no way to absolutely ensure that your chosen vendor will secure your data and applications, regardless of the due diligence, contractual requirements and monitoring you apply. "You don't have infinite resources so you can't solve everything," says Deloitte's Mears. "It comes down to what is the most critical thing to protect and how do you go about it."

"People are clearly thinking about security plenty," says Yankee Group's Jaquith. "But thinking and doing are two different things. You need to know what you're getting into."

Responsibility for security never leaves the CIO's desk, even when the work does. Without serious due diligence and a robust set of policies for handling security with IT providers, outsourcing can become a game of Russian roulette. ◆

Gruman, principal of The Zango Group and a regular contributor to CIO, can be reached at ggruman@zangogroup.com.



Continued from page 7

that hire outsourcers no longer have the resources to do the audit," he says.

Even if audits are rarely performed, requiring them is still a good idea. At Southwest, "it's rare to audit outsourcers, but it has been done," says Schaffer. "It's done based on risk, such as when something doesn't feel right." Southwest also gets a feel for outsourcers' performance by using information in audits for other purposes, such as Sarbanes-Oxley Act compliance, since these audits typically examine both Southwest and its outsourcers.

Another useful tool for low- or medium-risk data is to settle for a review of the outsourcer's support documentation, says Speare, because that will show whether the outsourcer is keeping its policies current and maintaining its operational rigor.

How to End The Relationship

An often-overlooked issue in securing an outsourcing relationship is how to handle its dissolution. For example, Withers is working with other customers of EaglePicher's manufacturing information systems outsourcer, Plexus Systems LLC, to create a trust arrangement for EaglePicher's data in case the young outsourcer goes out of business. And when you leave, "how can you ensure that all your data is wiped clean?" asks DePalma.

For him, the question is not academic: DePalma was shocked to discover that six months after Common Sense ended its relationship with Salesforce.com Inc., the company's data was still on the CRM provider's servers, even though Salesforce.com had promised to delete the data after a month. Common Sense learned of the retained data only when it began discussing a new relationship with Salesforce.com. (Salesforce.com declined to discuss its data management policies.)

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Virtual SECURITY:

The Devil Is in the Details

From the initial contract to ongoing monitoring, it pays to get specific with your outsourcer about the security needs of your company.

BY ROBERT L. SCHEIER

HOPING TO save money and respond more nimbly to changing business conditions, companies are increasingly going "virtual" with their data centers, outsourcing the management of key applications and data.

But with new regulations and laws raising the penalties for security breaches, customers are becoming more and more concerned about whether their outsourcers can keep their systems and data safe.

In a survey conducted earlier this year by the International Association of Outsourcing Professionals, more than 90% of respondents said security breaches related to outsourcing would be "catastrophic" to their businesses, and 45% said they were more or much more concerned about data security than they were a year ago.

Watson Wyatt Worldwide Inc. in Arlington, Va., administers outsourced employee-benefit plans for its customers and outsources some of its

own IT functions to outside vendors. Five years ago, customers would leave it up to Watson Wyatt to perform vulnerability assessments of the Web applications that it manages for them, says Ryan Hunter, service delivery manager. Now, he says, there's a "huge uptick" in clients demanding to perform their own vulnerability scans to meet regulatory requirements.

Despite such worries, there's no stopping the headlong move to outsourcing. For the many companies that will hand over all or a piece of their IT systems this year to third parties, tricky tactical issues involving security come to the fore. And according to IT executives who have been there, it's all about keeping an eye on the details. Here's how to ensure that your outsourcer keeps your systems, applications and data in secure lockdown, and some information about the technologies that can help.

Get Specific With What You Need

Almost every organization has different security needs, based on the industry it is in, the type of systems it runs, the type of data it controls and the laws, regulations or industry standards it must follow. That's why effective management of an outsourcer's security must begin with an internal data assessment (see story, page 3). The customer can then use those internal requirements to build the processes and requirements their outsourcers must fulfill.

Some customers use off-the-shelf software to help assess the criticality of the IT services they have outsourced and what security measures they should demand of their outsourcers.

For example, Credit First National Association in Cleveland provides credit card services for Bridgestone/Firestone North American Tire LLC and relies on the parent company's internal IT department for services. To ensure that the IT group is complying with financial regulations, the credit card unit uses ControlPath Vendor Management software from ControlPath Inc. in Englewood, Colo., to identify the security requirements that its IT partner must meet.

As a result of this assessment, outsourcers "might have to answer how they handle the security of their employees, the security of their information systems or their contingency planning," says Peter Racco, manager of information and physical security and enterprise risk management at Credit First National. If a contract needs to he checked, for example, ControlPath fires off an e-mail to a lawyer advising him to he sure the contract is current. To do such work manually, Racco says, "I

> Despite the **number of tools and services** used to track security, it's still a major challenge to get **a single view** of all the vulnerabilities within all systems.
>
> **RYAN HUNTER,** SERVICE DELIVERY MANAGER
> WATSON WYATT WORLDWIDE INC

would have had to hire five or six full-time employees."

It's also important to be very specific about your security needs, especially with an outsourcer that is more focused on meeting performance or efficiency goals than on security. In many cases, customers are hiring managed security service providers (see "A Second Pair of Security Eyes," page 4).

Sometimes a customer needs to drill down into details such as how an outsourcer staffs its data centers during vacations or other employee shortages. David Melnick, a senior manager at accounting and consulting firm Deloitte & Touche USA LLP, remembers one outsourcer that gave more than 100 employees administrative privileges on a customer's systems so they could fill in for other network, database or systems administrators who were out sick or on vacation. The customer considered this practice unacceptable and persuaded the outsourcer to instead give only limited-time access to such employees, reducing the number of people with unlimited rights to its sensitive systems.

Melnick also suggests detailing in contracts or service-level agreements (SLA) exactly what tests a customer can run on an outsourcer's security and which systems can be tested.

Keep a Close Watch On Performance

Outsourcers also need to ensure that the access rights of its customers' users are properly changed as their jobs change and that those rights end when a user leaves the organization.

It's hard enough to track down all the internal systems on which a user may have been granted a password, says Jon Watts, a principal at Booz Allen Hamilton Inc., a McLean, Va.-based consulting firm. "When you add in the component of an outsourcing relationship, it gets even more complex," he says. Auditors and regulators are "going to hold you responsible for ensuring the right access to your systems, whether you do it directly nr if your outsourcer" does it, Watts says.

Outsourcing customers should first clean up their internal processes for maintaining proper user-access rights and then build those same requirements into contracts or SLAs with outsourcers, says Watts. This includes, "performance monitoring to make sure these things are actually happening," he says.

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> **JON WATTS,** PRINCIPAL, BOOZ ALLEN HAMILTON INC

Periodic audits are a vital and accepted part of the monitoring process. They are valuable because they are structured, evaluate the same criteria consistently and produce a detailed view of the outsourcer's actual performance over time.

However, they produce only a point-in-time snapshot that may overlook more critical and immediate problems. That's why a small but growing number of outsourcing customers are also using dashboards or other software to dynamically monitor an outsourcer's security performance.

See It All With Real-Time Monitoring

Dashboards gather and analyze information drawn from an outsourcer's security, identity management or access management systems and present it in a graphical, easy-to-understand form. Many security monitoring and control tools that internal systems administrators already use can present reports to a user outside the production network, such as a customer wanting to monitor the quality of an outsourcer's performance. Whether a specific dashboard

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Road Map to Outsourcing

1. Based on an internal assessment of critical data, **be very specific in contracts and service-level agreements** about which security processes you expect your outsourcer to perform and how.
2. **Use established standards where possible,** and even standard outside reports, to develop requirements or assess your outsourcer's performance.
3. Where necessary, **specify the proper access-control measures** the outsourcer must take, including which of its employees have privileged access to databases and networks.
4. **Consider supplementing audits** with real-time monitoring of systems or security logs.

> **"[Auditors and regulators are] going to hold you responsible"**

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SECURITY IS TOP OF MIND

When selecting an outsourcing partner, what are the most important evaluation factors?

1. Capabilities and quality of services
2. Pricing of service and cost savings to the company
3. Provider's security policies, capabilities and track record
4. Financial strength and business stability
5. Reputation, brand and references
6. Provider's regulatory and compliance history
7. Geographic factors

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straightforward. The job depends on its ability to draw data from the various systems at the outsourcer, how well the dashboard can protect the information and its ability to analyze and report on its findings.

One such tool is Consul InSight Security Manager from Consul Risk Management Inc. It monitors the actions of database administrators and other employees at the outsourcer, assesses whether the outsourcer's IT infrastructure complies with the customer's regulatory requirements, monitors database access and manages logs for network and security devices.

One customer deploys the Consul software across a virtual private network to monitor an outsourcer that manages about 20,000 of its servers. Consul presents the results in the form of 20 to 30 custom reports. When an auditor asks for a report on change-management violations at the outsourcer, for example, the customer can simply hit the print button on the product to generate the report, says Marc van Zadelhoff, Consul's vice president of marketing and business development.

Dashboards summarizing the data gathered by such tools should be created not just for executives, but also for various management levels within the customer, says Guillermo Kopp, a vice president at TowerGroup, a research and consulting firm in Needham, Mass. Executives might need "the very big summary saying all systems are go, the lights are green," he says, with only network and systems managers receiving information about specific transactions.

Guillermo Kopp

But like some other observers, Kopp suggests using dashboards "for a sense of if the outsourcer is doing well," and drilling down into specifics such as analyzing firewall or access logs only if there's evidence that the outsourcer is failing or during a periodic audit.

Ted Julian, vice president of marketing at Application Security Inc., a vulnerability-scanning and monitoring vendor, says regular reports on how well the outsourcer is following the customer's contractual requirements for patch and password management "is probably more important than real-time reporting" from the outsourcer's security systems. Tracking the outsourcer's performance on criteria the customer set beforehand, such as how often user passwords must be changed and how quickly security patches are applied, are better indicators of whether the outsourcer's security performance is improving over time, he says.

When evaluating or managing outsourcing relationships, how concerned are you about the following types of security threats?

CYBER THREATS

Percentage of respondents who answered "very important":

64 % Theft, misuse or damage of company systems and data from **outside** the outsourcer (such as system hacking, viruses, spyware, infiltration)

62 % Theft, misuse or damage of the company systems or data from **inside** the outsourcer

NON-CYBER THREATS

Percentage of respondents who answered "very important":

35 % Theft or damage of data or assets via compromises of **physical security** (break-ins, vandalism)

35 % Compromise of operating continuity because of **external factors** (natural disasters, political instability)

Which factors present the biggest management challenges in evaluating and managing security in outsourcing relationships?

1. Establishing effective security management requirements in the contracts
2. Monitoring, auditing and evaluating vendor compliance with an established security policy
3. Evaluating and implementing security technology and process integration
4. Acquiring and maintaining the right skills and capabilities to manage security
5. Determining how much to invest in security in an outsourcing relationship
6. Delivering effective training on policies and procedures of outsourcing providers

Develop Your Own Security Policies

One reason many customers find it hard to trust their outsourcers' security claims is that different standards bodies promote different security standards and use different types of reports to monitor compliance with those standards. The lack of standards "makes it hard to compare vendors apples to apples," says Watson Wyatt's Hunter.

And while security management and monitoring tools are improving, some observers say it's still too hard to get an overall view of their own security situations — much less that of an outsourcer. Hunter uses multiple tools from different vendors and a third-party scanning service to monitor the security of his applications. But he says it's still a major challenge to get a single view of all the vulnerabilities within all systems and how changes to any of those applications and platforms will affect the security of other parts of the IT infrastructure.

All these complexities make it even more important for customers to develop effective security policies for themselves before they try to determine how good a job an outsourcer is doing. "You've got to look at your own security processes," says Watts, before deciding whom to outsource to and how to keep an eye on them. ◆

Scheier is a freelance writer in Boylston, Mass. He can be reached at rscheier@charter.net. Additional reporting by Galen Gruman.

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WORRIED ABOUT CYBERSPACE

When evaluating or managing outsourcing relationships, how concerned are you about the following types of security threats?

SOURCE: BOOZ ALLEN HAMILTON INC. SURVEY OF 158 EXECUTIVES, MARCH 2006

BIGGEST CHALLENGES

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Back -to- Basics SECURITY

OPINION

UNDER THE Sarbanes-Oxley Act and the European Union's data-protection directives, you're responsible for any security breaches that occur — both yours and your outsourcer's. Fortunately, many security products are becoming more economically viable. Retina scans and voice recognition are now feasible identification tools. Cryptographic hashes used for data encryption (such as SHA-1 and Snefru) are growing stronger. Statistical anomaly techniques for intrusion detection are also improving. Researchers are working on systems to identify people by odor, ear shape, hand vein patterns and gait.

However, even the most advanced tools won't protect you if basic security procedures are not in place. The 2005 Computer Security Institute/FBI survey reports that only half of corporate security breaches fit the stereotype of cybercriminals using the latest James Bond tools or Defcon techniques. The other half originate inside your own organization through, for example, human error, poor procedures or employee theft.

Basic security controls will prevent most security breaches. **Make sure your outsourcer takes at least the following steps:**

- **Conducts background checks on all employees.** Insider attacks are the hardest to prevent.
- **Disables orphan accounts promptly.** Passwords and e-mail accounts should be disabled as soon as an employee leaves. Although this seems obvious, it can be difficult in organizations with decentralized security management systems or where many outsiders (contractors, researchers, etc.) are granted access.
- **Establishes a physically secure environment.** Many buildings require entry badges but can be easily entered by "tailgating" employees who hold doors open. Server centers are often in buildings subject to fires, floods, earthquakes — or roof leaks.
- **Secures the electronic environment.** Easy hacker access should be eliminated by disabling wireless networks and closing any open ports. Make sure passwords are complex enough to be secure and are changed regularly. (Many employees still leave their passwords taped to their monitors!) Servers and data should be virtualized. Software patches must be applied regularly, and backup files should be sent to a secure off-site location.
- **Develops security procedures.** Ensure that your outsourcer complies with regulations such as the Gramm-Leach-Bliley Act and HIPAA or industry standards such as PCI-DSS for credit card handling.
- **Establishes an intrusion-detection group.** The Internet Engineering Task Force is developing a common format for tracking electronic intrusions. Monitor its progress, and make sure the eventual standards are adopted.

Expect your outsourcer to provide basic security; consult industry associations such as BITS or universities such as Rutgers for checklists. Make sure security controls are specified clearly in your contract. Large outsourcers can provide additional levels of security — at additional cost. Carefully analyze your need for extra security, since all data is not equally sensitive. Balance the cost of additional security against the probability and cost of potential loss, then factor in your company's tolerance for risk.

Security considerations are critical to successful outsourcing efforts. Before you sign the contract, make sure your outsourcer can provide security levels that match your organization's needs. Prevent predators from leveraging small security mistakes into enormous and costly losses. ◆

Perkins is managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps organizations invest well in IT. He was previously CIO at Tricon Global Restaurants Inc. and Dole Food Co. Contact him at BartPerkins@LeveragePartners.com.

COMPUTERWORLD

Columbia Insurance Group Inc. in Columbia, Mo., says he has no problem finding Cobol programmers, many of whom have been laid off from other insurance companies. But he acknowledges that hiring them often involves relocating them from distant cities.

Read says Columbia Insurance's policy management and claims processing software is 20 years old and has 1 million lines of Cobol code with some 3,000 modifications layered on over the years. "Despite everyone pronouncing Cobol dead for a couple of decades, it's still around," he says. "We continue to enhance the base system. It's still green-screen, if you can believe that."

Read says getting younger workers to take on Cobol chores is a "real challenge, because that's not where technology is today." He simply tells them they must do some Cobol work, promising a switch to other things at the earliest opportunity.

Cobol Contrarian

Papé Group Inc., a capital equipment dealership operating in seven states, is bucking several trends. All its application software is custom-developed, and all of it is Cobol. But even so, the Eugene, Ore.-based company says finding programmers with Cobol skills isn't all that important.

Shaun Swift, Papé's director of information systems, says custom systems provide a better fit for the company's needs than commercial software packages because they can be enhanced and modified more quickly. And he says his hardware and software environment — Cobol 85 running on a Hewlett-Packard NonStop system — is more reliable, stable and secure than the more popular Windows alternatives.

The average age of his six Cobol programmers is about 50, Swift says, but he doesn't worry about losing them to retirement because "Cobol is an easily learned language."

Of recruiting, Swift says, "Sure, I'd like to find someone who knows Cobol, [but] what I'd really like to find is someone who understands business processes. . . . And I'd like to find somebody that has actually developed systems; those people are getting hard to find." What often passes for a software developer today is someone who knows how to install and tune packages, he complains.

Although Swift says knowledge of business processes and software engineering principles trump Cobol skills when he's recruiting, other IT managers count on programmers' interest in application content to get them to swallow the Cobol pill. For example, Walker says, "I have one Cobol programmer who just loves working on the criminal application because of how interesting it is — you are helping take bad people off the street."

Ursula Morrissey has been a Cobol programmer at the Connecticut Judicial Branch for 20 years, and she admits wanting to try newer technologies. But she doesn't make a fuss about it. "I'm really needed right where I am," she explains. And, perhaps more important, Morrissey says, "I really like working on the criminal application, learning about the law and how the courts function."

Still, she adds, "if we ceased to program in Cobol, I probably would not be searching the ads for a Cobol programming job."

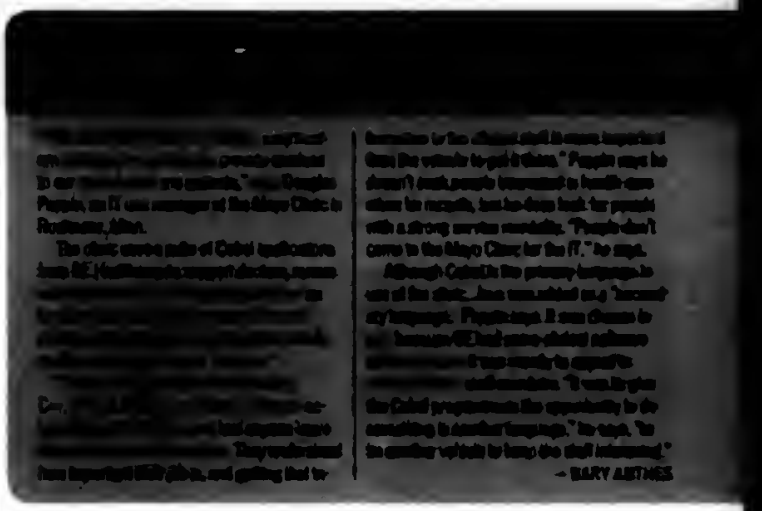
Dan Colford, director of IS services and support at Katun Corp. in Minneapolis, says he doesn't have trouble finding people with Cobol skills. He says it's harder to find people with experience in VisualAge Generator, a Cobol-like development tool from IBM that Katun uses extensively.

Asked if it's hard to motivate people to work on the company's Cobol-based inventory management, order-processing and financial systems, Colford says, "With any IT person, the motivation is learning new things, and keeping them stimulated is part of my job as a manager. There is some concern that they are getting stagnant, and there is some merit to that."

The solution is to simply ask these programmers to continue with Cobol while promising to let them get involved with new things in some reasonable amount of time, Colford says. For example, Katun will replace all of its Cobol with an ERP package from IFS North America Inc. in Chicago within 18 months, and Colford is letting his Cobol coders delve into the IFS software now.

For years, pundits have said that the way to avoid the headaches of maintaining Cobol — and mainframes, green screens and other legacy paraphernalia — is to replace them. But that hasn't happened, even in the massive Y2k remediation effort.

Indeed, Cobol promises to be around for many more years, challenging the IT managers who must support it. "A lot of people have said they were going to get rid of the mainframe, but that hasn't happened," says Mark Washik, a consultant at Schneider Electric SA in Palatine, Ill. "And for us, all that code is working. There's no sense in rewriting it." ▸



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A. Total number of copies printed (net press run)	191,547	191,972
B. Paid and/or requested circulation		
1. Outside-County Mail Subscriptions Stated on Form 3541	188,315	187,490
2. In-County Subscriptions	0	0
3. Sales through dealers and carriers, street vendors, counter sales, and other non-USPS paid distribution	891	867
4. Other classes mailed through the USPS	0	0
C. Total paid and/or requested circulation	189,256	188,357
D. Free distribution by mail, carrier or other means, samples, complimentary and other free copies		
1. Outside-County as stated on form 3541	2,070	1,820
2. In-County as stated on form 3541	0	0
3. Other classes mailed through the USPS	0	0
E. Free distribution outside the mail, carriers or other means	1,646	2,995
F. Total distribution (Sum of 15d and 15e)	3,716	4,815
G. Total distribution (Sum of 15c and 15f)	192,982	193,172
H. Copies not distributed	620	620
I. Total (Sum of 15g and 15h)	193,602	193,792
Percent paid and/or requested circulation (15c/15g x 100)	98.1%	98.0%

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Robert Wescott
Director of Distribution and Postal Affairs

Columbia Insurance Group Inc. in Columbia, Mo., says he has no problem finding Cobol programmers, many of whom have been laid off from other insurance companies. But he acknowledges that hiring them often involves relocating them from distant cities.

Read says Columbia Insurance's policy management and claims processing software is 20 years old and has 1 million lines of Cobol code with some 3,000 modifications layered on over the years. "Despite everyone pronouncing Cobol dead for a couple of decades, it's still around," he says. "We continue to enhance the base system. It's still green-screen, if you can believe that."

Read says getting younger workers to take on Cobol chores is a "real challenge, because that's not where technology is today." He simply tells them they must do some Cobol work, promising a switch to other things at the earliest opportunity.

Cobol Contrarian

Papé Group Inc., a capital equipment dealership operating in seven states, is bucking several trends. All its application software is custom-developed, and all of it is Cobol. But even so, the Eugene, Ore.-based company says finding programmers with Cobol skills isn't all that important.

Shaun Swift, Papé's director of information systems, says custom systems provide a better fit for the company's needs than commercial software packages because they can be enhanced and modified more quickly. And he says his hardware and software environment — Cobol 85 running on a Hewlett-Packard NonStop system — is more reliable, stable and secure than the more popular Windows alternatives.

The average age of his six Cobol programmers is about 50, Swift says, but he doesn't worry about losing them to retirement because "Cobol is an easily learned language."

Of recruiting, Swift says, "Sure, I'd like to find someone who knows Cobol, [but] what I'd really like to find is someone who understands business processes.... And I'd like to find somebody that has actually developed systems; those people are getting hard to find." What often passes for a software developer today is someone who knows how to install and tune packages, he complains.

Although Swift says knowledge of business processes and software engineering principles trump Cobol skills when he's recruiting, other IT managers count on programmers' interest in application content to get them to swallow the Cobol pill. For example, Walker says, "I have one Cobol programmer who just loves working on the criminal application because of how interesting it is — you are helping take bad people off the street."

Ursula Morrissey has been a Cobol programmer at the Connecticut Judicial Branch for 20 years, and she admits wanting to try newer technologies. But she doesn't make a fuss about it. "I'm really needed right where I am," she explains. And, perhaps more important, Morrissey says, "I really like working on the criminal application, learning about the law and how the courts function."

Still, she adds, "if we ceased to program in Cobol, I probably would not be searching the ads for a Cobol programming job."

Dan Colford, director of IS services and support at Katun Corp. in Minneapolis, says he doesn't have trouble finding people with Cobol skills. He says it's harder to find people with experience in VisualAge Generator, a Cobol-like development tool from IBM that Katun uses extensively.

Asked if it's hard to motivate people to work on the company's Cobol-based inventory management, order-processing and financial systems, Colford says, "With any IT person, the motivation is learning new things, and keeping them stimulated is part of my job as a manager. There is some concern that they are getting stagnant, and there is some merit to that."

The solution is to simply ask these programmers to continue with Cobol while promising to let them get involved with new things in some reasonable amount of time, Colford says. For example, Katun will replace all of its Cobol with an ERP package from IFS North America Inc. in Chicago within 18 months, and Colford is letting his Cobol coders delve into the IFS software now.

For years, pundits have said that the way to avoid the headaches of maintaining Cobol — and mainframes, green screens and other legacy paraphernalia — is to replace them. But that hasn't happened, even in the massive Y2k remediation effort.

Indeed, Cobol promises to be around for many more years, challenging the IT managers who must support it. "A lot of people have said they were going to get rid of the mainframe, but that hasn't happened," says Mark Washik, a consultant at Schneider Electric SA in Palatine, Ill. "And for us, all that code is working. There's no sense in rewriting it."

"WE ARE NOT HERE to produce sexy modern software; we are here to provide services to our clinical staff and patients," says Douglas Pappin, an IT unit manager at the Mayo Clinic in Rochester, Minn.

The clinic uses a suite of Cobol applications from GE Healthcare to support doctors, nurses and pharmacists, and Pappin says he has no trouble getting his 17 programmers to work on those clinical systems, which often include custom-coded application "bolt-ons."

"They probably would rather be doing C++, C# and .Net kinds of things," Pappin acknowledges, "but I've never had anyone leave because we are a Cobol shop. They understand how important their job is, and getting that information to the clinical staff is more important than the vehicle to get it there." Pappin says he doesn't seek people interested in health care when he recruits, but he does look for people with a strong service mentality. "People don't come to the Mayo Clinic for the IT," he says.

Although Cobol is the primary language in use at the clinic, Java was added as a "secondary language," Pappin says. It was chosen in part because GE had some clinical software written in it, but it was mostly to appeal to more technical staff members. "It was to give the Cobol programmers the opportunity to do something in another language," he says. "To be another vehicle to keep the staff interested."

– GARY ANTHES

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Predictive Analytics

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BY JAN MATLIS

QUICK STUDY

THE ANALYTICAL PAYOFF

How companies can boost revenue or cut costs with predictive analytics

	CUSTOMER	PRODUCT
INCREMENTAL REVENUE	■ Cross-selling ■ Upselling ■ Customer profitability	■ Market basket analysis ■ Pricing markdown ■ Product promotion ■ Merchandising optimization
COST REDUCTION	■ Customer scoring (e.g., creditworthiness) ■ Fraud detection/ reduction via profiling ■ Customer cost profiling	■ Demand planning for inventory reduction ■ Supply chain optimization ■ Machine/system failure forecasting

BEST PRACTICES

1. Follow a scientific method: The process should include hypothesis, testing, implementation and iterative improvements.

2. Perform a readiness assessment: Build the business case, inventory information assets and enroll key players.

3. Take care of your statisticians. Data is abundant. Statisticians aren't.

4. Assemble a cross-functional team: It should include a business analyst (domain expert), a model builder (statistician) and a data access specialist (database administrator).

5. Prepare clean and consistent data.

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Predictive Analytics

DEFINITION

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BY JAN MATLIS

PREDICTIVE analytics is a set of mathematical techniques applied to a data set for determining the probability that some scenario is likely to happen or be true. These techniques are applied to many research areas, including meteorology, genetics and marketing — areas in which there's an abundance of data and a need to forecast the future.

QUICK STUDY

In business, predictive analytics are often used to answer questions about customer behavior. For example, companies often want to know whether or not a particular customer is likely to be interested in a direct-mail offer. Or a business might want to know whether, given a certain set of premiums and benefits, a new customer will become a long-term customer. Ultimately, businesses want predictive analytics to suggest how to best target resources for maximum return.

Cross-selling, upselling, determining customer profitability and promoting customer loyalty are the best-known uses of this technology, according to a report by Forrester Research Inc. analyst Lou Agosta. But there are many other applications, he notes, including credit scoring, predicting machine failures and making the supply chain more efficient.

Plenty of high-level mathematics are involved, but stated simply, predictive analytics is used to ask which characteristics, called predictors, in a data set are clustered together. The technique is also used to determine whether, given a set of predictors, the value for some other characteristic is likely to fall within a desired range.

Though these two questions sound very similar, in practice, they're quite different.

The first one, the search for clustered characteristics, is like saying, "Look through my database of information and find something about my business that I overlooked or might not already know." You might look through the history of people who have declared bankruptcy to find which characteristics are most tightly linked together: late payments, number of addresses within the past two years, recent divorce or health problems, for example.

The second question, determining whether a particular characteristic falls within a desired range, is like saying, "Given what I know about a customer, find out how likely it is that something else is true."

For example, you might want to analyze the characteristics of a person filing an insurance claim to determine the likelihood that the claim is false. The predictors could be how recently he filed his last claim, the dollar amount of that claim or how long the customer has had the policy.

The two approaches work together. Once linked characteristics have been identified, then the second question can be asked. After an insurance company has found which characteristics are most tightly linked to fraud, for example, it can create an equation that produces a number indicating how likely it is that a particular claim is fraudulent.

Suppose an automobile insurance company, AA Acme Insurance, already knows that multiple claims within a three-year period are closely associated with fraud. It could use predictive analytics to quantify the linkage. The result might be the equation:

Possibility of Fraud = 1/Square of (Time Since Last Claim)

In other words, the closer together the claims come, the more likely fraud is occurring. The equation is called a predictive model.

Then suppose that AA Acme fed all the data it collected on its customers into a predictive analytics system that found tightly linked characteristics and learned that there was another predictor of fraud that it had never imagined. Perhaps the recent purchase of a new home was also linked to automobile insurance fraud. Using this result, it might come up with a new equation:

Possibility of Fraud = 1/Square of (Time Since Last Claim) + 1/(Time Since Last Claim) + 3/(Time Since Last Home Purchase)

This model might catch fraud that would have gone undetected previously.

One key to making models like this work is having plenty of clean data to work with. "Without examples of fraud, the neural network cannot be trained on what to look for," says Agosta. And without historical examples of sales of a new product, a model can't predict a new market opportunity, he says. This is a case where more data is better, to smooth out idiosyncrasies and reveal information that might otherwise be lost in the noise.

Agosta cites the story of a model that showed senior citizens were buying rap music — not for themselves, but for their grandchildren. If the modeler hadn't "known that they had grandchildren, then the predictive inference would have been impossible or inaccurate," he says.

Predictive analytics is full of other challenges, too — from organizational politics to model design, validation and data preparation. "Data preparation can be up to 80% of the effort of predictive analytics, and many firms are not getting beyond it," Agosta says.

A major goal of predictive analytics is to move away from seat-of-the-pants decision-making. But that can run afoul of organizational politics if, say, the brand manager doesn't agree with the conclusions. Models should be revised as needed, but not just because the results don't support the brand manager's theory.

"Do not second-guess validated test results without cause and consideration," Agosta cautions. "Be true to your predictive model."

THE ANALYTICAL PAYOFF

How companies can boost revenue or cut costs with predictive analytics:

FORRESTER RESEARCH INC

BEST PRACTICES

FORRESTER RESEARCH INC

Matlis is a freelance writer in Newtonville, Mass. He can be reached at jmtgpcmcm@netzero.net.

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Awareness Trumps New Security Toys

Our manager resists the urge to buy more technology and turns her attention to raising users' security knowledge. By C.J. Kelly

SECURITY MANAGER'S JOURNAL

FROM TIME to time, all security managers have to ask themselves, What is our weakest link? Is it our susceptibility to hackers and being the victims of a highly visible security breach, or is it insider threats? I had to think long and hard about that recently so that I could choose between investing in more security technology and investing in more security awareness training.

Buying technology is always tempting. Who doesn't want cool new toys to play with? But I had to be realistic and look at the facts. For example, my recent request for money for additional security hardware and software had received only tentative approval. What's more, I had not yet completed several key security projects. There was no question that I had to finish all the things I had begun before I would be given more money.

Even if I drew up a proposal that made perfect sense and addressed a real problem, the fact remained that I already had a lot on my plate. I needed to prove the effectiveness of the technologies already being deployed before asking for more. I would look like a little kid asking for more ice cream before finishing the first serving.

Instead, I did a little research and found that, statistically speaking, end users are the biggest security threat in the enterprise. According to Symantec's latest Internet Security Threat Report, "Attackers see end users as the weakest link in the security chain and are constantly targeting them in an effort to profit."

While Symantec's report focuses primarily on the threats that home users face, users are the weakest link for corporations and government agencies. That has been my experience as well. I might want to spend my agency's money on cool security technologies, but that isn't necessarily going to give me the biggest bang for the buck.

With that in mind, I turned my focus to security awareness training. Or rather, I returned my focus to it. I had planned a fabulous security awareness program about a year ago, but I had no resources to implement it. It's been at the back of my mind since then, and now, suddenly, here was an opportunity to go ahead with it. I would have to get the plan down on paper.

Step 1 in that process was to outline the topics to be covered. The general focus areas I chose are acceptable-use policies, computer and network security, physical security, protected health information and remote security. I decided that acceptable use should be the first topic because it relates directly to end-user do's and don'ts.

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Next, I had to decide how to deliver the information. I actually have a lot of ideas in that area. I teach a course in information security at the local university. There, I like to lead the class in discussion by asking questions. It's a technique that makes the students think by engaging them.

My plan for the awareness training is to use the Web, but I can still do something similar online by posing what I call "teaching questions." Everyone learns differently, but I have found that most students learn more effectively when they have to think about what the answer might be before being given the correct answer.

I have made some progress in drawing up the teaching questions I will use in the section on acceptable-use policies. Here's a sample of how I will teach our users what is acceptable personal use of agency resources:

Am I allowed to use agency resources for personal use?

A. Yes, whenever I want.

B. No, never.

C. Yes, as long as I exercise good judgment regarding reasonableness of personal use.

D. Yes, as long as I always ask my supervisor's permission first.

I never use agency e-mail (the state-supplied e-mail account) for personal use, but I do use my personal Web mail account (Yahoo, MSN, Gmail, AOL, etc.). Is that OK?

A. No. Using my personal mail account takes time away from my job.

B. Sure, as long as I get my work done.

C. Yes, as long as I exercise good judgment regarding reasonableness of personal use and don't break any laws doing so.

Does the agency "own" my personal e-mail if I use it while at work, as it does other agency resources?

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C. Yes and no; the agency does not own my personal Web mail account, but it does own the network my e-mail travels on and therefore owns the data that travels over the network.

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SECURITY LOG

Security Seen as Marketing Tool

The Chief Marketing Officer Council last week released a report titled "Secure the Trust of Your Brand: How Security and IT Integrity Influence Corporate Brands." The report serves as a reference guide for marketers and other executives, offering real-world examples of companies' actions following major security breaches, plus strategies and best practices for preventing and containing data breaches and preserving brand trust.

Report: Online 'Crimeware' Rising

According to WebSense Inc.'s semiannual Web Security Trends Report, the volume of Web attacks rose in the first half of the year, and malicious code became more covert, less recognizable and more targeted toward financial gain. The report notes a 100% rise in sites designed to install keyloggers, screen scrapers and other forms of crimeware. Meanwhile, WebSense reported a 60% drop in Web sites designed merely to change user preferences, such as browser settings.

McAfee Buying Citadel for $360M

McAfee Inc. will pay $360 million to acquire Citadel Security Software Inc., a producer of security compliance products designed to ensure that employees are using corporate IT policies. The deal comes four months after McAfee paid $310 million to acquire Preventsys Inc., also a vendor of risk management and compliance reporting software. The new acquisition will buttress McAfee's existing compliance enforcement products, said McAfee President Kevin Weiss.

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BRIEFS

Borland Software Attacks Code Bugs

■ Borland Software Corp. has unveiled its Lifecycle Quality Management suite, which is designed to eliminate software defects by tightly linking requirements to code as it is built and tested. The suite integrates Borland's Silk testing products with its requirements definition and management tools and software configuration product. It includes a new defect-prevention product called Gauntlet, which analyzes code as it is checked in to make sure it meets specific quality standards. Gauntlet will be generally available Dec. 15; the rest of the suite is available now.

Alcatel, JPS Team On Radio Technology

■ Paris-based Alcatel and JPS Communications, a Raleigh, N.C.-based division of Raytheon Corp., last week announced the My Teamwork land mobile radio conferencing and collaboration system. The product is a combination of software and hardware that provides interoperability between land-based mobile radio networks and telephony devices on traditional or IP networks. My Teamwork is designed for emergency first responders, but it can also be used by delivery personnel and field technicians. It is available now, and pricing starts at $7,500 for 150 users.

Black Diamond Touts Rugged Mobile PC

■ Black Diamond Advanced Technology Inc. in Tempe, Ariz., has announced what it claims is the first rugged ultramobile PC, the SwitchBack PC. The SwitchBack has a magnesium housing, rubber isolators and shock-mounted circuit cards to meet or exceed military specifications for shock, vibration, humidity and extreme temperatures. It's designed for military, field service and public safety use. Windows XP models will be available in the fourth quarter; other versions are due by mid-2007. Pricing starts at $9,000.

MARK WILLOUGHBY

Security Lessons From Sun Tzu and Hannibal

HISTORY books are full of lessons relevant to today's data security battles. Hackers understand history's lessons and reduce their risk by carefully studying a potential target before designing attacks with a high probability of overcoming defenses. This sort of risk assessment is one criterion that Sun Tzu, author of *The Art of War*, used more than 2,500 years ago to evaluate the chances of success in a looming conflict.

Although we're not losing the war against hackers, one problem we face is that an elusive and unknown enemy picks the time and place of the engagement, which gives him an extremely powerful advantage.

This "when and where" advantage, combined with other innovations or surprises, greatly increases the odds that the bad guys will stay one step ahead of the cops, whether they're stealing cars or information. But nothing lasts forever, and sooner or later things change for the bad guys. Maybe they keep using the same old tricks too long, fate intervenes and they make a simple mistake, or the targets wise up.

The pages of history also provide some positive examples in the struggle to secure online assets. The Romans learned all about managing risk during the Punic Wars (264-146 BC), when the excellent Carthaginian general Hannibal won every battle but lost the war. The Romans suffered numerous humiliating defeats at Hannibal's hands and finally realized that the probability of winning an engagement was low. So they barricaded themselves inside walled cities as Hannibal rampaged up and down the Italian peninsula.

Hannibal's forte was fast-moving warfare with fluid maneuvers, so he viewed siege warfare against fortified Roman cities to be an unacceptable risk. The Romans licked their wounds and settled in for a war of attrition. They revised their tactics and ultimately conquered Carthage with a new generation of leadership.

Successfully managing risk is a delicate balance between probability and impact. If we choose more security, we must strengthen countermeasures to make the probability of a successful attack unattractive. The bad guys will look elsewhere for lower-hanging fruit — and a skilled and determined foe will always find lower-hanging fruit.

Risk management is increasingly being used in planning and managing information security because risk is about business, not technology. Just as the Romans correctly deduced that they could win a war of attrition in a clash of civilizations, risk management provides the framework and tools for evaluating and managing the threats to an organization.

Viewed through a risk management lens, some threats will be deemed acceptable risks because the probability that they would occur is low or because their impact would be slight. However, the threshold for acceptable risk is dynamic. Risk managers must be vigilant in re-evaluating a constantly changing universe of threats. Most notable security failures can be traced to a failure to recognize changed risk conditions, where the probability of an attack or the force of its impact increased.

Conversely, some threats have such high probability or would deliver such a fierce impact that risk is omnipresent. Earthquake countermeasures and defenses must be baked into businesses in California. Similarly, companies that manage large amounts of cash must take extraordinary measures to protect and account for this most liquid of assets.

Some organizations try to strengthen security with more technology. Smarter organizations are changing the rules of engagement, like the Romans did 2,250 years ago, by adopting risk management methods. They evaluate the probabilities and impacts of threats to the organization, both known and unknown.

Most new developments in security technologies over the past several years have been driven by a better understanding of the risks to information assets. The perimeter "M&M" approach to security, dominated by firewalls as the protective hard shell, has been replaced with a new model. This new model, sometimes called the Swiss Cheese Model, layers defenses throughout the organization based on where risk is present.

The growth in identity management is driven by the realization that people, especially internal employees and contractors, are the chief risk to information assets. Being certain of who is launching a session or requesting a service is fundamental to successfully managing risk and extending access to customers and partners.

If we focus solely on M&M security as a goal, we'll be distracted with technology and surrender the advantages of time, place and technical innovation to hackers. When risk management guides the investment, we focus more on the business, and technology takes a back seat. ▸

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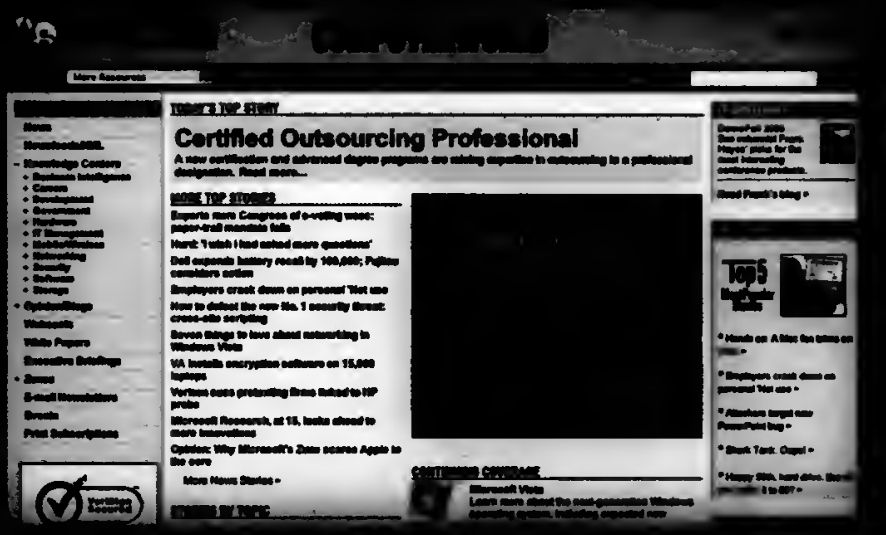

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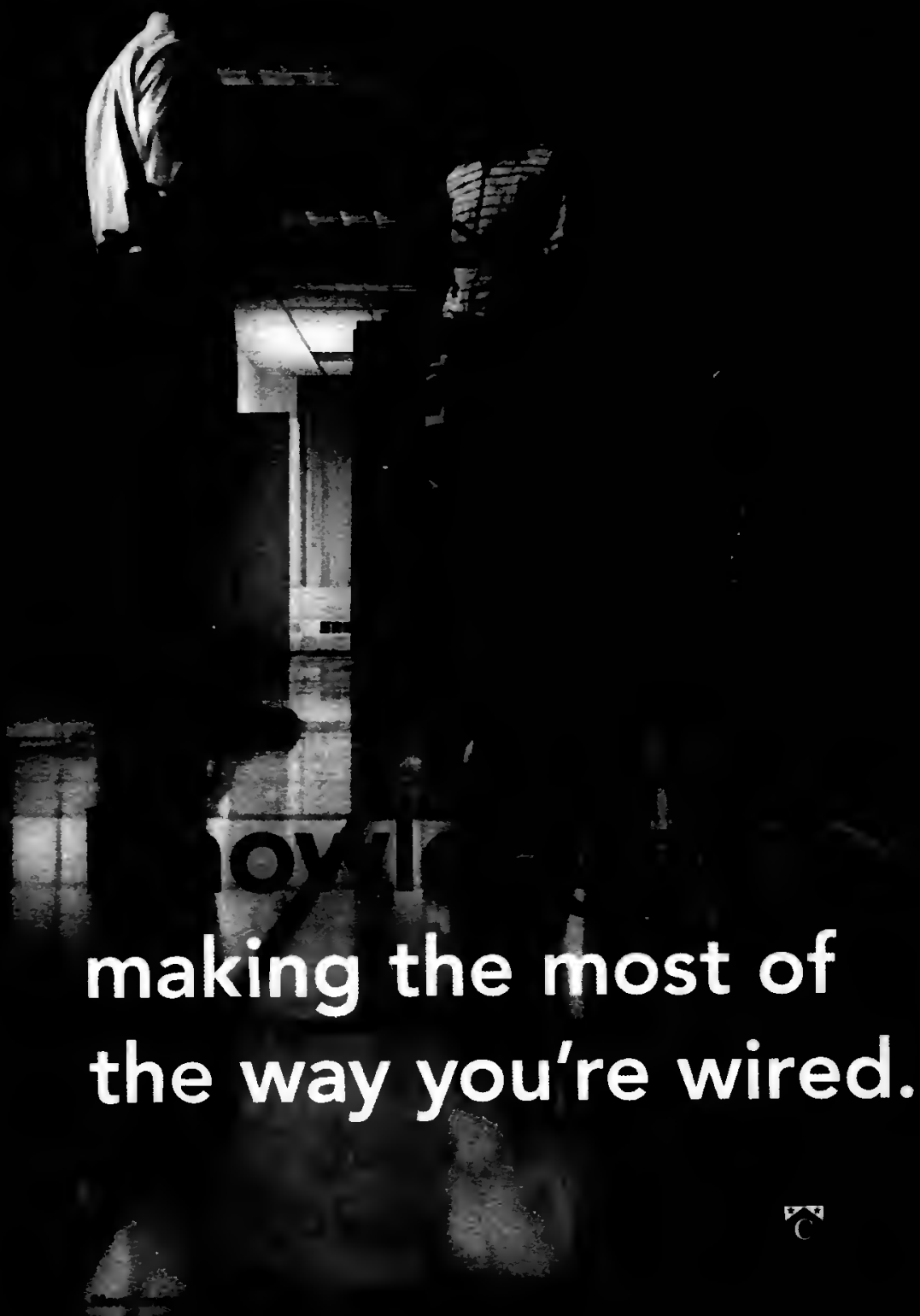

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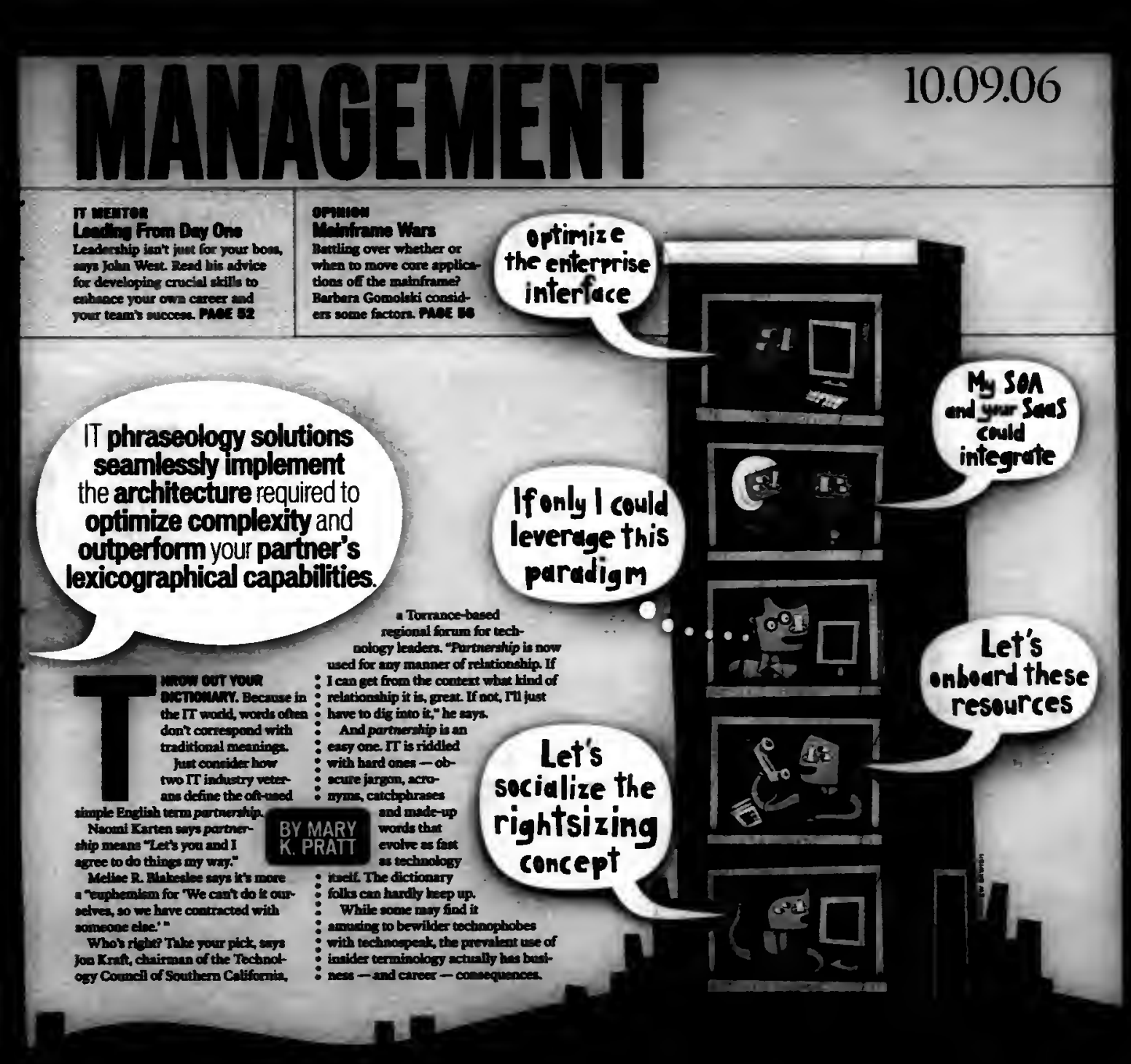
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BUZZWORDS

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Naomi Karten says *partnership* means "Let's you and I agree to do things my way."

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Who's right? Take your pick, says Jon Kraft, chairman of the Technology Council of Southern California, a Torrance-based regional forum for technology leaders. "*Partnership* is now used for any manner of relationship. If I can get from the context what kind of relationship it is, great. If not, I'll just have to dig into it," he says.

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MANAGEMENT

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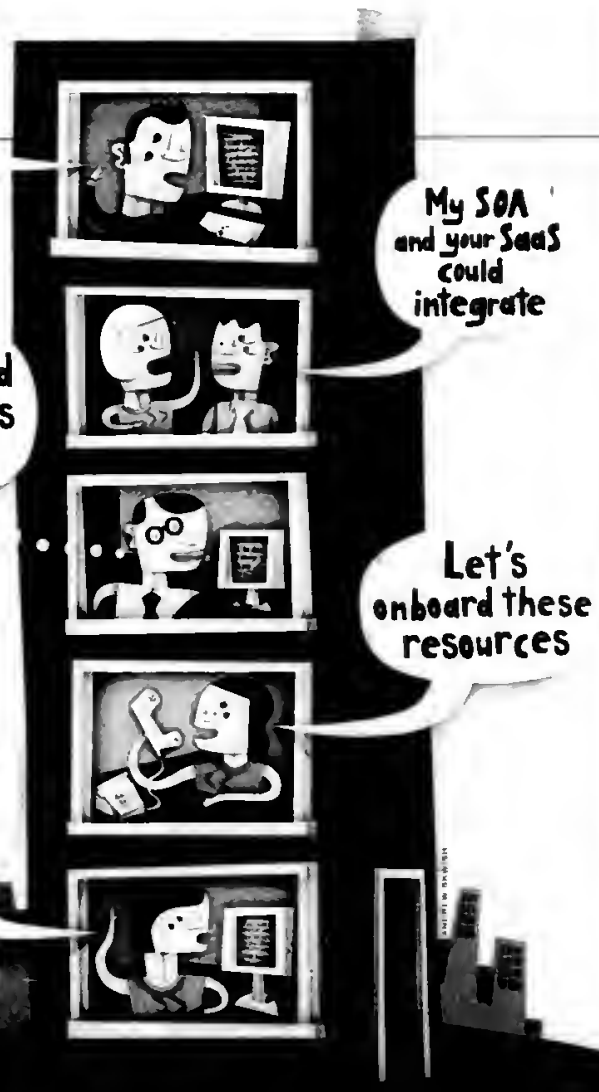
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"You could be the best technical person in the world, but if you can't effectively communicate with your business partners, then who cares?" says Jerry Luftman, executive vice president of academic relations at the Society for Information Management (SIM) and associate dean at the Stevens Institute of Technology in Hoboken, N.J.

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Don't forget *outsourcing*, *offshoring* and its new cousin, *backsourcing*, for when you've got to reverse the whole outsourcing process.

Finally, there are all those misused, ambiguous or otherwise normal words co-opted by IT — and especially IT vendors: *alien software*, *enterprise solution*, *synergy*, *paradigm*, *protocol*, *interface*, *leverage*. The list goes on and on. These words are often notable for their tacked-on complexity: Why add *functions* when you can add *functionality*? Why *improve* something you can *optimize*? Want real confusion? Start stringing these words together.

Kraft divides buzzwords into three categories. The first are "fuzzy words." "They're just not well defined, and they could mean multiple things," he explains. He lists *enterprise architecture* and *business process management* among them. "BPM — what does that mean? It could be anything," he says.

Kraft's second category includes words with clear definitions known by some but not everyone. *Software as a service* and *service-oriented architecture* fall under this heading. "IT people clearly know what those are, but business people struggle with them," he says.

His third list is the broadest, encompassing all the words that once had clearly defined meanings now lost through overuse and misuse. He puts *supply chain* and *partnership* here. "I usually won't get lost when those words come up, but they don't clarify anything, either," he says.

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But what happens when that bafflement backfires? "A lot of people in our industry love being competent. I freely admit to being one of them. So you can't admit you don't know something," says Johanna Rothman, president of Rothman Consulting Group Inc. in Arlington, Mass., and author of *Behind Closed Doors: Secrets of Great Management* (Pragmatic Bookshelf, 2005). "I think it's sort of human nature; no — geeky nature," she concludes. And those ambiguous buzzwords and catchphrases just keep going around. "It's kind of self-fulfilling. We don't reward people for asking," she says.

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8:30am to 8:40am	**Introduction and Overview** Don Tennant, Editor in Chief, Computerworld
8:40am to 9:20am	**Market Overview and Trends** Carlos Recalde, Managing Director, Successful Technology, LLC
9:20am to 10:00am	**A Holistic Approach to End-to-End Service Assurance** Dr. John S. Camp, Chief Information Officer, Wayne State University
10:00am to 10:15am	**Refreshment and Networking Break**
10:15am to 10:50am	**Application Performance Assurance Case Studies: It Pays to be Predictable** Andrew Hittle, Vice President, Quality Assurance Solutions, Compuware
10:50am to 11:25am	**Application Performance: An End-User Case Study** Ramu Kannan, Director of IT, Humana, Inc.
11:25am to Noon	**Panel Discussion** Moderator: Don Tennant, Editor in Chief, Computerworld Panelists: Dr. John S. Camp, Chief Information Officer, Wayne State University; Ramu Kannan, Director of IT, Humana, Inc.; Andrew Hittle, Vice President, Quality Assurance Solutions, Compuware; Carlos Recalde, Managing Director, Successful Technology

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DON'T WAIT TO DEVELOP CRUCIAL LEADERSHIP SKILLS. START TODAY.

BY JOHN E. WEST

You can be a leader in the IT trenches or in the boardroom, says JOHN E. WEST. And he believes the key to strong leadership is simple: A person is a leader because other people follow the example he sets.

IT MENTOR

If you work in IT, you should know that your ability to work well with others is at least as important as your technical acumen

act things done. Start getting that practice right now.

Look at your work environment, tools and processes. How could things be better? What one change would make you, your team or the IT group more productive or more relevant to the company?

You want to be careful here, especially at first. You might get fired up about some of your ideas and want to run straight to your boss and fill him in on all the great stuff he should be doing. There are often reasons, and sometimes good reasons, that things are the way they are, and you or your boss may not be able to change those things right now. For example, you may know that you can buy the workstations your group needs from the back of a magazine for 30% less than your company's purchasing department pays. But what you aren't thinking about is that the maintenance savings that the company enjoys by buying all of its workstations from a single vendor may more than offset the difference in upfront cost.

The key is to do the thinking. Then, as time goes on, look for opportunities to share your ideas with those around you and get their feedback. Then, when you're at that staff meeting and the boss asks, "How can we make things better?" you'll be ready.

TAKE RESPONSIBILITY. Accept responsibility for your own actions. When someone compliments you for a job well done, accept his congratulations humbly. When you make a mistake, admit your error, learn from it, and don't fall in the same way again.

RECOGNIZE AND REWARD OTHERS. We all like to be recognized for our contributions. But recognition doesn't just have to come from the boss. When a co-worker meets a difficult project milestone or stays all night to get the network back up, give a word of congratulations or thanks. Nothing fancy or formal — simply acknowledge that you recognize and appreciate what your teammate has done.

ACT AS A MENTOR. One of the most valuable aspects of leadership is the desire to help others reach their potential. But again, you don't have to wait until you're the boss to start doing this. As you learn and develop, look for opportunities to pass your skills on to others. For example, let's say it took you several weeks to get comfortable with your team's configuration control system, and this is something that every new employee on your team is going to have to master. Would it be valuable for you to spend a little time and create a one-page quick study guide? How about spending a few hours with the new guy to get him over the hump faster than you were able to get over it on your own?

Helping others develop is immensely fulfilling, but it's also great for your career. It can help establish you as a trusted expert with your peers and as a valuable leader in your boss's eyes. Just don't spend so much time helping others that you don't get your own job done! ♦

West is the director of a major U.S. government supercomputing center and author of **The Only Trait of a Leader** *(www.onlytraitofaleader.com), a book and blog about IT leadership and career skills. Contact him at john@onlytraitofaleader.com.*

SEE THE BIG(GER) PICTURE.

UNDERSTAND WHAT COULD BE BETTER TODAY.

Hey, Newbie, Watch Your Step!

Here are some early-career leadership mistakes to avoid:

LIMITING YOUR FOCUS. Spend some effort from Day One asking questions and finding experiences that will help you see the big picture and understand your role in the context of the whole organization.

CRITICIZING NONCONSTRUCTIVELY. Don't criticize the status quo without being prepared to offer options for making it better.

AVOIDING RESPONSIBILITY. Understand all the circumstances that led to the current situation and honestly assess your role in creating it.

GOING IT ALONE. Look for advice, counsel and input from everyone around you. Learn from their successes and their failures.

Leading FROM Day One

DON'T WAIT TO DEVELOP CRUCIAL LEADERSHIP SKILLS. START TODAY.

If you work in IT, you should know that your ability to work well with others is at least as important as your technical acumen. But while "teamwork" is a mantra in techie circles, leadership is often left to higher-ups.

Thanks to thousands of years of social conditioning, we think in hierarchies. If we aren't at the top of a hierarchy, we don't exert our leadership because "it's someone else's responsibility." But leadership is not about titles, fame, money, power or even position. It's about followers. A person is a leader because other people follow the example he sets. It really is that simple.

Being an effective leader is good for your career in the IT trenches or in the boardroom. It can help you succeed at the things you love, even if you never want to manage a team larger than yourself. Developing leadership skills can also get you into management faster if you want to go that way.

Here are some ways to start developing your leadership skills right now, even if you're just starting your IT career.

1 SEE THE BIG(BER) PICTURE. One of the traits that employees commonly lack at the beginning of their careers (and sometimes later on, too) is perspective. Most of us are confronted each day with more things to do than time to do them. A key to your success — and the success of your entire team — is recognizing which things are important enough to take priority.

Try to understand how what you are working on right now fits into the picture at least two levels up from you. You might just be working on a piece of license token software, but if you know that piece of software is needed before the product ships, and if you realize that this product is supposed to turn your company's fourth-quarter revenue around, you will be totally focused on getting that work done.

2 UNDERSTAND WHAT COULD BE BETTER TODAY. A crucial trait in strong leaders is vision: the ability to look around and see how things could be, not just how they are. It takes practice to develop a vision powerful enough to inspire others while concrete enough to get things done. Start getting that practice right now.

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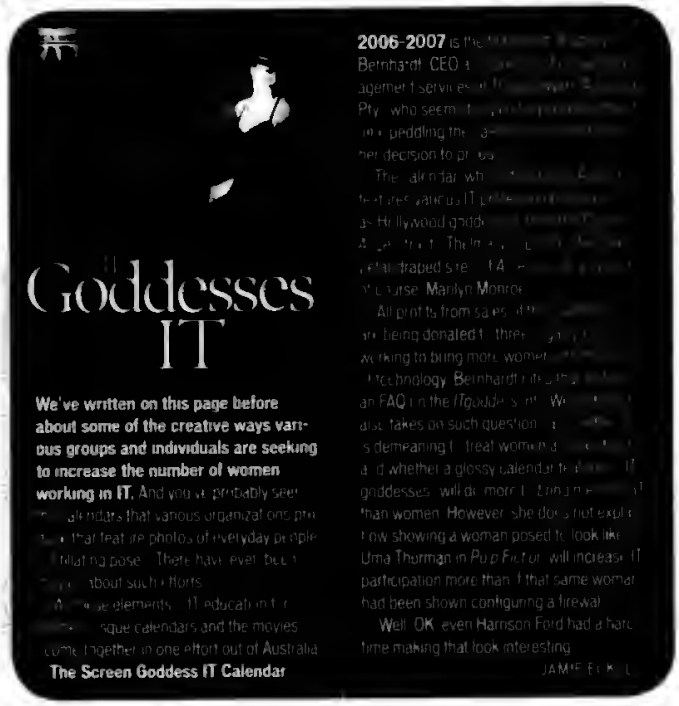
IBM.
_INFRASTRUCTURE LOG
_DAY 59: The infrastructure is growing out of control. Nothing's being used to capacity. It costs a ton to manage, both in time and resources. All we do is react to problems. I told Gil I'm tired of spending my days putting out fires. He said he'd pitch in.
_Gil brought in a fire hose. Everyone is sopping wet, and the data center is an electrified wading pool. We've got to find something better than H_2O.

Career Watch



Goddesses IT

We've written on this page before about some of the creative ways various groups and individuals are seeking to increase the number of women working in IT. And you've probably seen [illegible] calendars that various organizations produce that feature photos of everyday people [illegible] posing. There have even been [illegible] about such efforts.

All of these elements — IT education efforts, risqué calendars and the movies — come together in one effort out of Australia: **The Screen Goddess IT Calendar**.

2006-2007 is the [illegible] Bernhardt, CEO [illegible] agement services [illegible] Pty., who seems [illegible] pedaling the [illegible] her decision to pro[illegible]

The calendar, wh[illegible] features various IT pr[illegible] as Hollywood godd[illegible] A[illegible]. The [illegible] retail-trapped sis[illegible] IT [illegible] course, Marilyn Monroe.

All profits from sa[illegible] are being donated t[illegible] three [illegible] working to bring more women [illegible] technology. Bernhardt [illegible] an FAQ on the *IT*goddess[illegible] W[illegible] also takes on such question[illegible] as demeaning. I treat women a[illegible] and whether a glossy calendar [illegible] IT goddesses will do more [illegible] than women. However, she does not explain how showing a woman posed to look like Uma Thurman in *Pulp Fiction* will increase IT participation more than if that same woman had been shown configuring a firewall.

Well, OK, even Harrison Ford had a hard time making that look interesting.

JAMIE ECKLE

WHAT HIRING MANAGERS ARE LOOKING FOR

Senior executives and managers put things such as likability above diversity goals and test performance when hiring or promoting in their business. Here's what they rely on most and least:

Likelihood of fit	73%
Interviews	70%
Willingness to learn	69%
Likability	63%
Skills	62%
Knowledge of the organization	20%
Diversity	19%
Testing	15%

SOURCE: GLOBAL SURVEY OF 1,500 HUMAN RESOURCES EXECUTIVES AND MANAGERS BY HARRIS RESEARCH, MADBURY, N.H., AUGUST 2006

PAGE COMPILED BY JAMIE ECKLE

Brendan Courtney

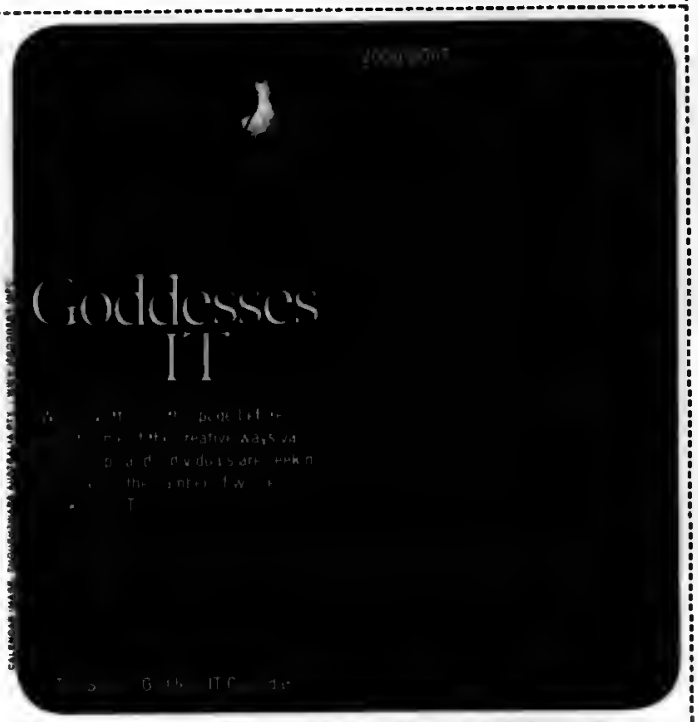
TITLE: Senior vice president

ORGANIZATION: Sphere Corp., Fort Lauderdale, Fla.

Q&A

Headhunters and [illegible] adjusts a key [illegible] sent [illegible] type [illegible] that IT work[illegible] That is [illegible] [illegible] [illegible]

Career Watch



CAVEMAN MASK: PHOTOGRAPHER'S MATE 1ST CLASS PHILLIP JONES

Are fewer IT workers looking for new jobs? IT workers tend to make job changes more frequently than other types of workers for a variety of reasons. But companies are doing a better job of taking care of their employee base. Salaries have gone up, and there's been an increase in educational opportunities and other noncash-type compensation. As a result, employees are feeling better about where they are working.

Why do IT workers tend to make job changes more frequently than other types of professionals? As a group, IT workers tend to be more mercenary as employees. They're willing to move for money or to work on a sexier project or to develop a set of skills that their current employment doesn't offer. IT workers are all about developing the next set of skills.

Some people argue that IT unemployment rates are misleading because they don't include technologists laid off during the dot-com bust who decided to enter different professions. I'd agree. We're at very low unemployment rates, and there's always going to be a percentage of people who are unemployable or decide they don't want to work, regardless of what profession they're in. I would tell you that we're pretty close to that right now.

Are employers leaning more toward hiring full-time or contract IT workers? Both sides of our business are hot. But there is more permanent hiring going on today than there has been in the last four or five years.

What's driving this? There are a lot more projects going on, a lot more investment in corporate infrastructure, and companies want to lock these people down. There's more IT spending going on than there had been. It continues to be a strong market for IT employees.

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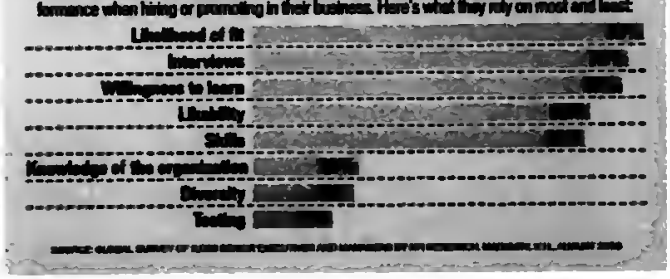

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EXEC TRACK

Freddie Mac Appoints James Hughes CIO

The Federal Home Loan Mortgage Corp., or Freddie Mac, in McLean, Va., has named JAMES D. HUGHES senior vice president and CIO. Hughes had been CIO and later executive vice president and head of the branch banking division at National City Corp. He will report to Joseph A. Smialowski, executive vice president for operations and technology. Hughes has also been a manager at Andersen Consulting, USF&G Corp. and Seer Technologies Inc.

Mark Sanders Joins New York Life as CTO

MARK E. SANDERS has joined New York Life Insurance Co. as chief technology officer and senior vice president of the corporate information department, reporting to Chief Operating Officer Eileen Slevin. Previously, Sanders was CTO at BKF Asset Management Inc.

Spires Replaces Grams as IRS CIO

RICHARD SPIRES has been appointed CIO at the U.S. Internal Revenue Service. Since he joined the agency in 2004, Spires has overseen IT application development. Previously, he was president and COO at Mantas Inc., a software vendor in Herndon, Va. Spires replaces W. Todd Grams, who left in July to become the chief financial officer at the National Institute of Standards and Technology.

CA Chooses Hansen To Fill CIO Position

Islandia, N.Y.-based software maker CA Inc. has named DAVID HANSEN senior vice president and CIO, reporting to Chief Administrative Officer Jim Bryant. Hansen joined CA in 2002. In 2003, he was named senior vice president of technology services for North America and later, senior vice president for worldwide presales. Previously, Hansen led IT for the Canadian division of Bowater Inc.

BARBARA GOMOLSKI

Mainframe: Should It Stay or Should It Go?

AN IT manager in a telecommunications company recently told me that he is waging a major battle over the mainframe. It seems that the high-level executives in IT (along with the company's CIO) have been singing a familiar song: "The Mainframe Has Got to Go." The execs are principally concerned with three things:

- The costs associated with maintaining mainframe hardware and software.
- The long-term availability of packaged software currently running on the mainframe.
- The long-term availability of labor for mainframe applications.

BARBARA GOMOLSKI, a former Computerworld reporter, is a vice president at Gartner Inc., where she focuses on IT financial management. Contact her at barbgomolski@yahoo.com.

This battle — or heated discussion — is taking place at many large companies today. Organizations that are running core business systems on mainframes are weighing when and if to migrate off of them.

If they do decide to migrate, these projects are guaranteed to be large, expensive and overwhelming from a business change perspective. Midrange systems vendors and software companies are stirring the pot by talking up the benefits of things like server virtualization and service-oriented architecture (SOA).

The telecom company IT manager is not in denial. He recognizes that the mainframe — eventually — will have to go. He just questions whether now is the right time. Here's his response to the executives' concerns.

- Certainly, mainframes are expensive when compared with midrange systems. However, the mainframe is all about economies of scale.

So once you're using mainframes, adding more MIPS is actually fairly attractive from a cost point of view. That's the case in this company. It owns one of the machines outright and has so many mainframe MIPS that the cost of adding more is quite competitive.

- Many of the applications the company is running on the mainframe are Cobol-based; they're used to do things such as customer billing. The money this company has already sunk into buying, tuning, tweaking and maintaining these applications runs well into the billions of dollars. Though these applications might not have been elegant initially, at this point and in this company, they are actually quite functional and stable.

To migrate these applications to a new platform would be a huge expense. It would also distract the business managers and users substantially. At the end of the migration, the application would look a lot like what they currently have.

- Labor is probably the issue where there is the most disagreement. The executives are rightly concerned that the largely baby-boomer-based workforce that is expert on these platforms is retiring, and no viable replacement is on deck. My discussions with many large organizations suggest that this is true — this workforce is drying up, and companies are struggling to replace these staffers. The telecom IT manager argues well on this point, though. He suggests that the whole mainframe/Cobol skills crunch is more hype than reality. He says that if Cobol programmers were really in such great demand, we'd see their salaries going up.

By all estimations, such salaries are not rising dramatically. So salaries (the equivalent of price in an economic model) are static, demand is supposedly up, and supply is down? That scenario doesn't make sense from an economic standpoint. One possible explanation: At this juncture, companies don't perceive these skills as worthy of hot-skills pay. So Cobol specialists may be out there but unwilling to work for the salaries that are being offered.

On top of these arguments, my contact suggests that it's never a great idea to be an early adopter of a new application architecture such as SOA. Best to let the market work out who the dominant players will be.

One could reasonably argue both sides of this dilemma. If your company is battling over the mainframe, I recommend you do the following:

- Take a close look at the cost structure of the mainframe environment. Are you achieving economies of scale? Consider the costs of all elements, including acquiring new hardware, migrating software and consulting.
- If your applications are custom-developed, your organization will be reliant on a skill base that is shrinking. Discuss with your human resources group the viability of hiring and retaining people with the necessary skills in the next five years.

If your applications are packages, find out from your vendors whether they plan to continue supporting the mainframe.

There's no right or wrong answer here. Whether it's time for the mainframe to go depends on many factors. Just be sure you understand how they play out in your company.

GOING, GOING, GONE?

IT managers wonder whether they'll run out of Cobol coders before they run out of Cobol code Page 25

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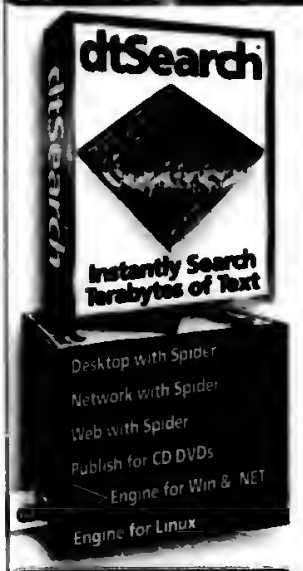

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Financial Engineer - Global Equities/Quantitative Research, Chicago, IL. Citadel Investment Group is seeking a qualified candidate to be responsible for the development and deployment of new analytics and models for equity products based on specifications from Citadel's Global Equities Quantitative Research Group. Develop and implement components for a new real-time equity risk management system. Provide support for Citadel's overall risk management infrastructure to include notifying the Risk Management team, as well as portfolio managers and analysts, when problems occur and producing timely resolutions to issues as they arise. Qualifications include a Masters' degree in Computer Science, Mathematics or a scientific discipline that included an emphasis in Quantitative Analysis or the foreign equivalent. Must have gained experience with Object-Oriented analysis/design and programming through previous employment or academic experience. Must also have gained software development life cycle experience as well as experience with C++ in Unix/Linux and Windows environments. Through previous employment or academic experience. Qualified candidates should submit a cover letter and resume, job reference R-0052, to rjobs0052@citadelgroup.com. Principals only need apply.

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Global Information Systems seeks Analysts, Software Engineers and DBA in customize applications using tools: T-SQL, C/C++, VB, SQL, ASP.Net, XML, VC++, Oracle, etc. Min o MS/BS with 5yr exp. Send resumes to 29777 Telegraph, #3465, Southfield, MI 48034. EOE.

IT engineer system analyst/administrator DBA needed by Cogent Systems to customize applications using Java, Oracle, VB, WebSphere/WebLogic, SAP, Net, SQL, DB2, J2EE etc. Travel maybe required. MS/BS with IT exp required. Contact vishnu@cogentsystems.net.

Back Office Application Developer, Chicago, IL. Citadel Investment Group is seeking a qualified candidate to be responsible for designing and developing cutting-edge real-time and reporting applications for Fund Accounting. Responsible for designing, enhancing and maintaining software for the firm's pricing and accounting systems. Develop thread-safe client side APIs and applications using C++ on UNIX (Linux) and NT platforms. Design and enhance database operations using Sybase and ODBC. Develop multi-threaded applications for high volume trading business using C++. Qualifications include a Master's degree in Computer Science or related field, or the foreign equivalent. Must have three (3) years of relevant experience including expert knowledge of multi-thread/thread-safe and parallel computing and hands on experience in developing real-time systems. Must be familiar with ODBC. Must also have experience in developing C++ applications using Object Oriented methodology in both Linux and NT environments. Qualified candidates should submit a cover letter and resume, job reference R-0053, to rjobs0053@citadelgroup.com. Principals only need apply.

Web Technology Specialist. Position based in Baltimore, MD and various client sites throughout the United States. Job requires extensive travel and/or relocation. Analyze, design, develop, test, implement and maintain web based application packages using Java, J2EE, JavaScript, JSP, C++, XML, HTML, UML, XSL, WebSphere, Rational Rose, Oracle and SQL Server in Unix and Windows environment. Conduct Object Oriented analysis. Utilize configuration management of MKS version control tool. Interact and co-ordinate with vendors, business and document requirements. Must have Bachelors or Foreign Equivalent in Computer Science or Engineering and two years of experience in the duties listed. Mail resumes with cover letter to CPSI, attn: HR Department, 21 Meller Avenue, Baltimore, MD 21228, fax to 410 455-0311, or email to resumes @ cpsi-md.com. Please refer to job WTS-967.

Software Engineer, Medford, MA. Analyze, design, develop software applications through all phases of SDLC using RUP, UML in Rational Rose. Utilize C++, J2EE, Java based Technologies. Visual Basic in multiplatform environment. Troubleshoot, test applications using Mercury tools, maintain existing applications. Reply to Redtail Consulting, Inc., 22 High St, Suite 5, Medford MA 02155.

Informatica is looking for system analysts/administrator, DBA, software engineers evolving at different sites (travel maybe required) using Oracle, VB, Java etc. Require min. MS/BS with related IT exp. Good salary with full benefits. Send resumes to info@informaticainc.com. EOE.

ShellSoft seeks IT professionals (system analysts/administrator, s/w engineers, DBA), project engineers using Oracle, SAP, SQL, Java, C/C++. Minimum requirement is MS or BS with 1-5yr experience. Some positions require travel. Please send resume to jobs@shellsoftinc.com. EOE.

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PROG. ANALYST - Analyze, dsgn, dvlp, implmt & test Bus. Applns using Java, JSP, Servlet & JDBC. Model business logic using Session Beans. Dvlp Entity Beans for transactional data access. Dvlp framework using MVC architecture. Must have Bach deg. in Comp/Engg/related field w/2yrs exp. Job # IBK-12.
Must have proof of legal auth to work in US. Frequent travel to client sites reqd. EOE. Send resume to HR Dept w/Job # to: IBSS Inc., 2540 Rte. 130, Ste 101, Cranbury, NJ 08512.

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Must have Bachelor or Master or equivalent and prior experience in job offered or related field. Travel required. Please send resume, salary history and position applied for to 460 Park Avenue South, Suite #1101, New York, NY 10016, Attn: H.R. Manager with Ref. CWIT04/1006.

IT Professionals sought by proprietary s/ware co (benefits/private equity) in NYC w/MS degrees + exp using the following skills. Java, J2EE, JSP, Oracle, PL/SQL, Pro*C, VB.NET, PowerBuilder, UNIX, ErWin & 3rd party tools. Pos available: Sr. Oracle Dvlpr, Sr. Java Dvlpr, VB Dvlpr (2 pos), S/ware Engr & Solutions Analyst. Resumes to Vitech Systems Group, Inc. job@vitechinc.com

Financial Analyst (Fort Lauderdale, FL). Requires travel throughout US. Mail resume to Albany Systems, Inc., Attn: Jason Posel, 401 E. Las Olas Boulevard, Suite 1400, Fort Lauderdale, FL 3330. Must include job code #: FAFFL0908 on resume/cover letter.

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CA 7
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www.usa.canon.com/bjg/whatsnewforcolor
Capella University 48
www.capella.edu
CDW Corporation 20-21
www.cdw.com
Cingular 15
www.cingular.com
Dell 13
www.dell.com
dtSearch 57
www.dtsearch.com
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www.emcinsignia.com
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www.hp.com
Hewlett-Packard ProCurve 19
www.hp.com
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www.ibm.com
IBM Software 53, 55
www.ibm.com
Intel 24
www.itanium-integrity.com
InterSystems Caché 53
www.intersystems.com
IT Executive Summit Application Performance 51
www.itexecutivesummit.com
Microsoft Security 45
microsoft.com/security/IT
NEC 11
www.necus.com
Network Instruments 57
networkinstruments.com/voip
Next-GenIT 40/41
www.ITNextGeneration.com
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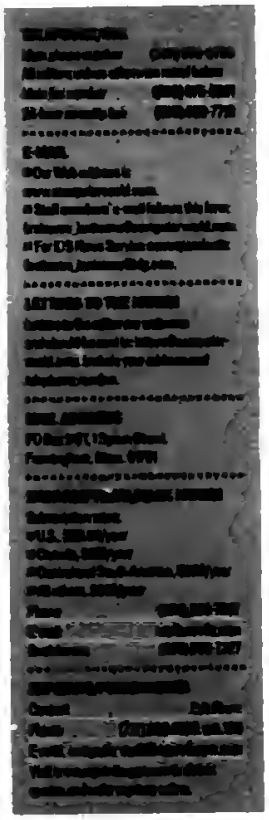

COMPANIES IN THIS ISSUE

Page number refers to page on which story begins. Company names can also be searched at www.computerworld.com

7-ELEVEN INC. 20
ABILITY PLUS SOFTWARE LTD. 18
ACCENTURE LTD. 14, 28, 28
ACTION RESEARCH GROUP 6
ADVANCED MICRO DEVICES INC. 6, 8, 22
ALCATEL 61
AMERICAN EXPRESS CO. 8
AMERICAN SOCIETY OF BUSINESS PUBLICATION EDITORS 22
AMERIPRISE FINANCIAL INC. 6
AT&T INC. 18
ATI TECHNOLOGIES INC. 8
ATTORNEYS' TITLE INSURANCE FUND INC. 37
AUSTRALIAN SERVICES UNION 18
BELARUSBANK JSSB 18
BENQ CORP. 14
BENQ MOBILE GMBH 18
BKF ASSET MANAGEMENT INC. 56
BLACK DIAMOND ADVANCED TECHNOLOGY INC. 46
BORLAND SOFTWARE CORP 10, 48
BOWATER INC. 20
BRITISH BROADCASTING CORP. 18
BT RADIANZ 18
BURTON GROUP 12
CA INC. 10, 22, 56
CAREERBUILDER.COM 54
CELENT LLC 18
CENTRE FOR RAILWAY INFORMATION SYSTEM 8
CHIEF MARKETING OFFICER COUNCIL 44
CITADEL SECURITY SOFTWARE INC. 44
CITRIX INC. 10
CIVITIUM LLC 18
CLEAR CHANNEL COMMUNICATIONS INC. 8
COGNOS INC. 10
COLUMBIA INSURANCE GROUP INC. 40, 41
COMPUTER SCIENCES CORP 14
DATA MOBILITY GROUP LLC 21
DELL INC. 8
DESKTOP STANDARD CORP 10
EMC CORP 12
ENDPOINT TECHNOLOGIES ASSOCIATES INC. 18
ERCOM SOFTWARE INC. 10
FEDERAL ENERGY REGULATORY COMMISSION 12
FEDERAL HOME LOAN MORTGAGE CORP. 56
FORRESTER RESEARCH INC. 12, 40, 42
FREE SOFTWARE FOUNDATION INC. 20
FUJITSU COMPUTER SYSTEMS CORP 21
FUJITSU LTD. 14
GARTNER INC. 21, 28, 56
GE HEALTHCARE 41
GOOGLE INC. 1, 12
GOVERNMENT ACCOUNTABILITY OFFICE 12
HARLAND FINANCIAL SOLUTIONS INC. 28
HEWLETT-PACKARD CO. 8, 20, 41
HOLLYWOOD ENTERTAINMENT CORP 37
IBM 6, 8, 12, 14, 21, 28, 41
INFORMATION BUILDERS INC. 28
INTEL CORP 8
INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS 14
ISOFT GROUP PLC 14
JPS COMMUNICATIONS INC. 48
JUPITERRESEARCH 23
KARTEN ASSOCIATES 50
KATUN CORP 41
LOUISIANA OPTICAL NETWORK INITIATIVE 8
MANTAS INC. 56
MASSACHUSETTS DIVISION OF INFORMATION TECHNOLOGY 12
MAYO CLINIC 41
MCAFEE INC. 18, 44
MCDERMOTT WILL & EMERY LLP 50
MERCURY INTERACTIVE CORP. 8
META GROUP INC. 22
MICRO FOCUS INTERNATIONAL LTD. 28, 37
MICROSOFT CORP 1, 6, 10, 12, 14, 18, 23, 28, 61
MIDO SOFTWARE 28
MONSTER 54
MORRISON & FOERSTER LLP 8
MOZILLA CORP 10
MRG GLOBAL INC 61
MYSQL AB 20
NATIONAL CITY CORP 28
NATIONAL HEALTH SERVICE 14
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY 58
NATIONAL SCIENCE FOUNDATION 8
NETUITIVE INC. 10
NEW YORK LIFE INSURANCE CO. 58
NFI RESEARCH 54
NOKIA CORP 14
NOVARTIS PHARMA AG 18
NOVELL INC. 20
NYSE GROUP INC. 25, 28
ONESTAT.COM 10
OPERA SOFTWARE ASA 10
ORACLE CORP. 10, 22
PANDA SOFTWARE INTERNATIONAL 14
PAPE GROUP INC. 28, 41
PARKER HANNIFIN CORP. 28
PENSKE CORP. 58
PHILADELPHIA BOARD OF ETHICS 18
QANTAS AIRWAYS LTD. 14
RAYTHEON CORP 48
REALEYES3D 62
REALNETWORKS INC. 14
RED HAT INC. 20
RINGCUBE 23
ROBERT HALF TECHNOLOGY 54
ROTHMAN CONSULTING GROUP INC. 60
SAP AG 18, 22
SCHNEIDER ELECTRIC SA 41
SECURITY OUTSOURCING SOLUTIONS INC. 8
SERUE SOFTWARE INC. 10
SIEMENS AG 6, 14
SIMPLY HIRED INC. 61
SOCIETY FOR INFORMATION MANAGEMENT 60
SPANSION JAPAN LTD. 18
SPHERION CORP 54
ST. MICHAEL'S HOSPITAL 21
STATION CASINOS INC. 18
STEVENS INSTITUTE OF TECHNOLOGY 50
SUN MICROSYSTEMS INC. 6
SYMANTEC CORP 10, 44
TATUM LLC 60
TECHNOLOGY COUNCIL OF SOUTHERN CALIFORNIA 48
TESCO STORES LTD. 14
THOUGHTWARE AUSTRALIA PTY. 54
TIME WARNER CABLE INC. 1
TRIMBLE NAVIGATION LTD. 18
TROUX TECHNOLOGIES INC. 10
U.S. CENTERS FOR MEDICARE & MEDICAID SERVICES 12
U.S. DEPARTMENT OF COMMERCE 18
U.S. DEPARTMENT OF ENERGY 12
U.S. DEPARTMENT OF HOMELAND SECURITY 12
U.S. HOUSE COMMITTEE ON ENERGY AND COMMERCE 8
U.S. INTERNAL REVENUE SERVICE 58
U.S. SECURITIES AND EXCHANGE COMMISSION 8
UNISYS CORP. 20
UNIVERSITY OF MIAMI 28
UNIVERSITY OF TEXAS 8
VMWARE INC. 10
VOID COMMUNICATIONS 60
WEBSENSE INC. 44
WYSE TECHNOLOGY INC. 10
ZAPTHINK LLC 8

Continued from page 1

Mass. CIO

give up his job effective Nov. 2. He wrote in his resignation letter that he has "no remaining expectation" that the state legislature will act quickly on the bond bill "and no continued appetite to watch the IT investment program lapse."

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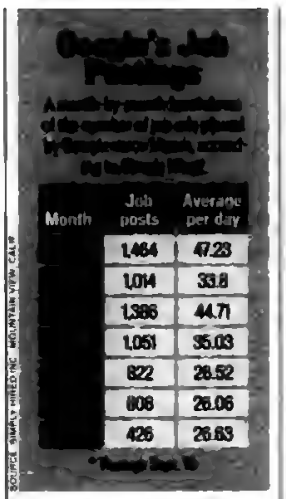

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Google's Job Postings

A month-by-month breakdown of the number of job ads placed by Google since March, according to Simply Hired:

Month	Job posts	Average per day
March	1,464	47.23
April	1,014	33.8
May	1,386	44.71
June	1,051	35.03
July	822	26.52
August	808	26.06
Sept.*	426	26.63

* Through Sept. 16.

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Mission: Possible

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That was in the morning. That afternoon, two other companies showed their own products, which allow users with megapixel camera phones to snap a shot of any document or screen and upload it immediately to a service that enhances the image and then e-mails it wherever the user chooses.

So much for the perfect privacy of messages that self-destruct.

After all, if someone can make an exact copy of a message (one vendor even converts it to a text-searchable PDF file), the message hasn't really been destroyed. And it's only as private as whoever made that copy wants it to be.

But is that the end of the story? Nope — it's just the beginning. Unfortunately, these two kinds of products don't just cancel each other out. What they really do is create two new collections of IT-based security problems.

Consider VaporStream, the self-destructing message system. The vendor, Void Communications, says the message text is kept in memory all the way through the sending process; it's never written to disk, and it's deleted as soon as it's read. VaporStream works the way it's supposed to. It just doesn't work the way some users will suppose it does.

What happens if one of your company's executives believes he has a perfectly private channel for chatting — but it turns out someone at the other end is transmitting an exact facsimile of the chat (in machine-searchable form, no less) in near real time to who knows where?

If that exec assumes there's no record of the conversation, he'll be wrong. And unlike an in-person voice conversation, there aren't even laws requiring the consent of one or both parties for the record to be made legally.

But if VaporStream could give users a false sense of privacy, services like ScanR and Realeyes3D's Qipit should give IT security people true nightmares.

Right now, many organizations are still struggling to lock out USB thumb drives. We don't want users copying confidential information and walking out the door with it.

But these new camera-phone-image-into-document services don't require a document to be copied to a thumb drive. And they don't require a device to be carried out the door. They don't even require a document to be in electronic form on a user's computer.

All they need is a user with a camera phone and bad intentions. If he can make a cell phone call, he can send confidential information on its way in real time, before he even leaves the office.

Sure, that was possible before with camera phones. Now it's just much more efficient.

Put simply, VaporStream isn't as useful as it first appears to be. And ScanR and Qipit are way *too* useful in the wrong hands.

Where does that leave you? Facing yet another race against gadget-happy, novelty-seeking users. And, as usual, when you tell those users no, they'll just try this stuff anyway.

So if your execs want the perfect privacy of self-destructing messaging, explain what the system won't do. And if you've already had to implement instant message archiving to keep company lawyers happy, remind the execs that those lawyers will be very unhappy if there's no record of their self-destructive chats when regulators come calling.

Meanwhile, if you don't already have a clear, written policy about using camera phones in your workplace, get on it now. Think it's not your job? If there's no such policy in place, no one else thinks it's his job either.

And the last thing you want is for your information security to self-destruct, too. ▸

FRANK HAYES, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Want a Slurpee With That?

Consultant pilot fish is called in on an emergency: Client needs new Internet service, pronto. Fish calls the local phone company, sets up a DSL subscriber account and then asks for a block of eight static IP addresses. "We don't sell them," sales rep confidently replies. "You'll have to go to a local store and pick them up." Tongue in cheek, fish asks if a 7-Eleven would carry them. "They might," rep says, "but your best bet would be to go to an office supply store."

SHARK TANK

Aha!

This pilot fish is called to a conference room where a frantic manager is removing and reconnecting cables to a PC. "I can't get the monitor signal to the projector for my meeting," he tells fish, and begins punching buttons on the wall. "See? It won't come on!" Without a word, fish points upward. Manager looks up – and sees an empty projector mount and cables dangling from the ceiling, where the projector has been removed for repair. Reports fish, "He gave me one of those 'How stupid am I?' looks as I left the conference room."

That Explains It

One of this company's T1 lines has come down hard, so telco pilot fish heads out to the site and checks on the equipment. But it all seems to be fine – it's just not receiving data. "I then followed the cabling out of the computer room into an area undergoing renovation," says fish. "There on the floor was a cutting torch by a ladder. Looking up, we saw that someone had cut a pipe – along with our T1 cabling."

Upon cutting the cables, he evidently decided to take a break."

Yes, It Does

Division manager calls pilot fish to complain that the laptop he's had for the past five years doesn't hold a battery charge when it's connected to its docking station. "He said every time he sees it in the dock, after a few hours the battery goes dead," says fish. "I asked him if the power supply to the dock was plugged in. His answer? 'The dock has a power supply?' "

Let's Make Sure

Pilot fish hits the office after hours and finds a note from a user: "My PC started making a weird noise, then turned itself off, so I turned it back on again. It happened twice, but it seems to be all right now." Then fish spots another note: "Actually, it's done it three times now. Four times. Five times. Six times . . ." All the way up to 16 times. Then: "It won't turn on anymore. I think it's broken." Sighs fish, "Sure enough, the hard drive was now completely dead – nothing could be recovered."

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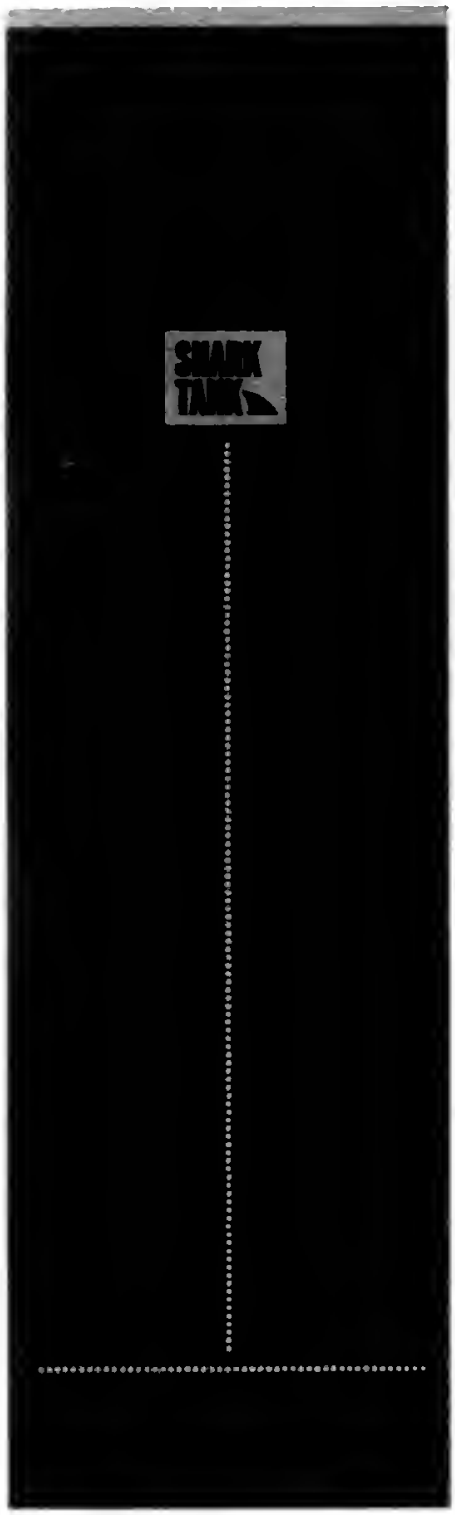

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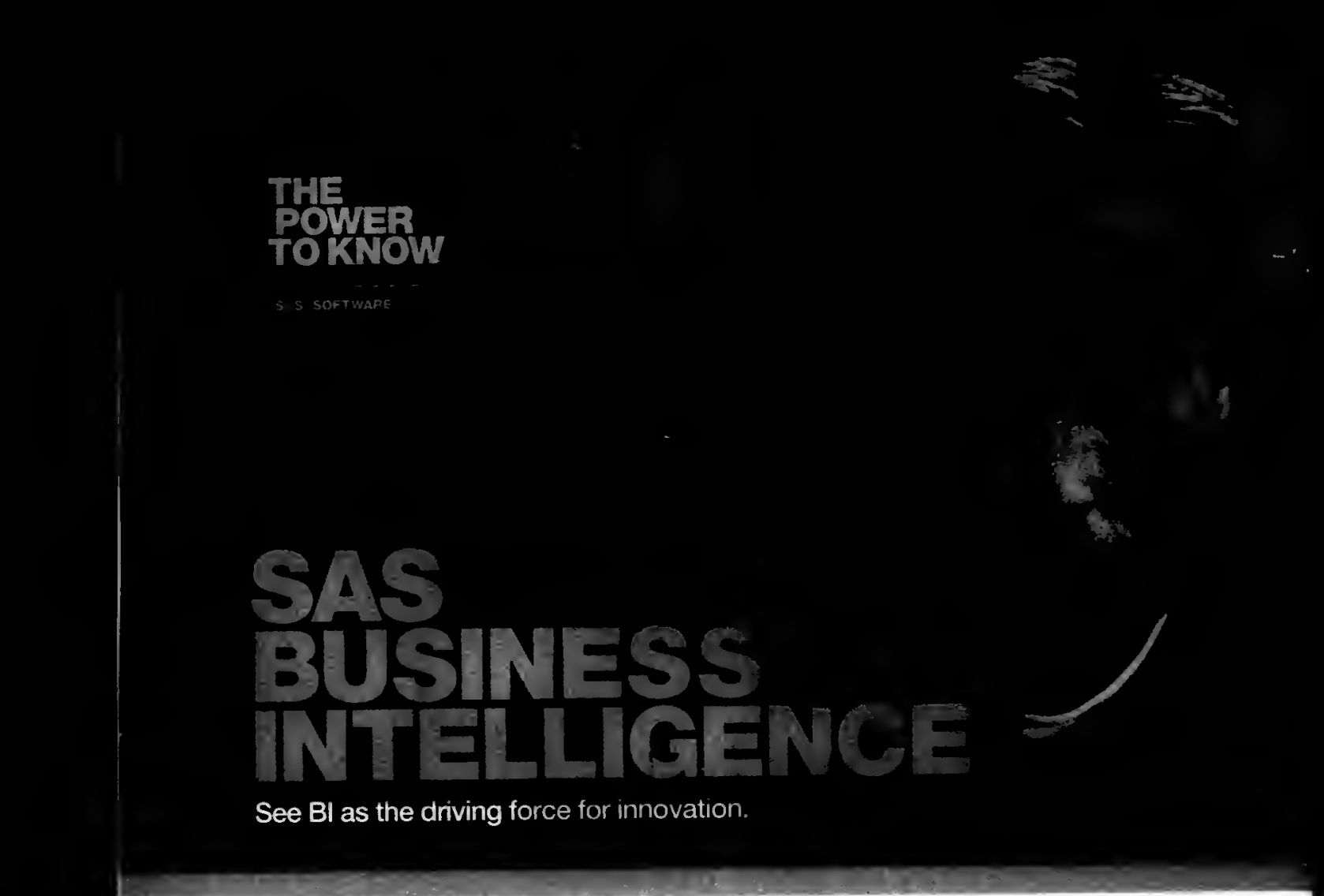

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